

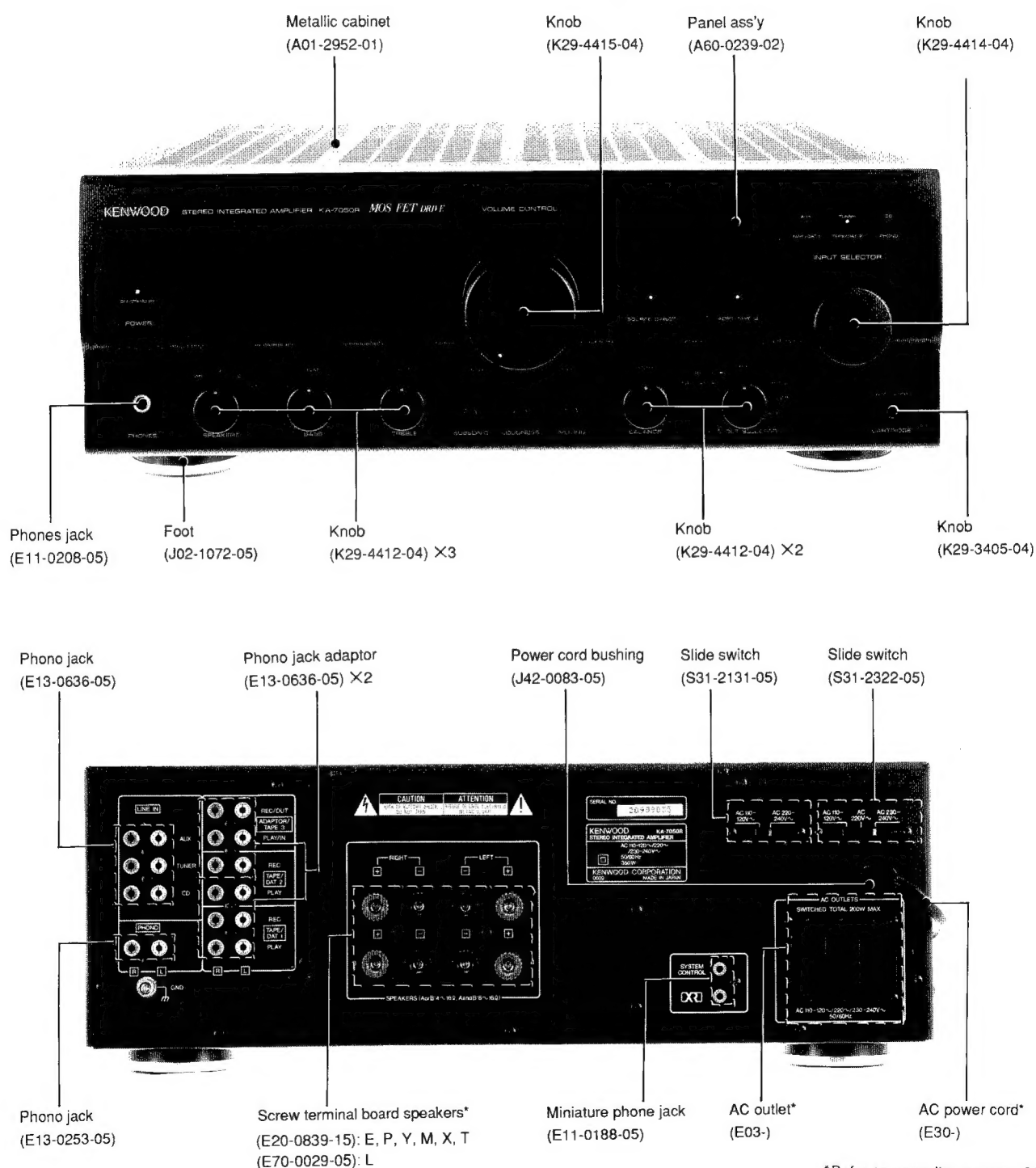
STEREO AMPLIFIER

KA-7050R

SERVICE MANUAL

KENWOOD

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PRECAUTIONS FOR REPAIR

Handle the power MOS-FETs carefully. They are easily destroyed by static electricity.

KA-7050R

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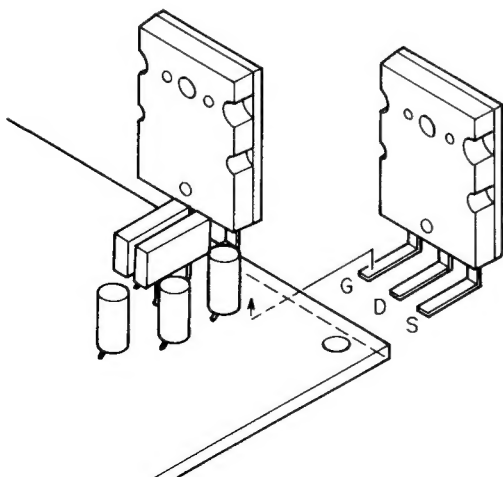
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INSTRUCTION MANUAL

B60-0882-00	ENGLISH	E, P, Y, M, X, T, L
B60-0883-00	FRENCH	E, P, L
B60-0884-00	SPANISH	E, M, L
B60-0885-00	CHINESE	M

NOTES

- Handle the power MOS-FETs carefully. They are easily destroyed by static electricity.
- When soldering, use a high-insulation soldering iron.
- When soldering, solder the gate (G) first.

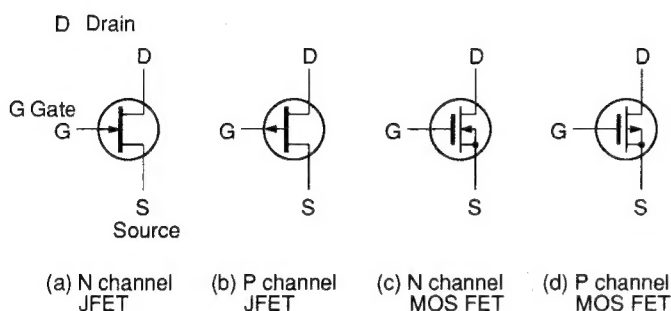
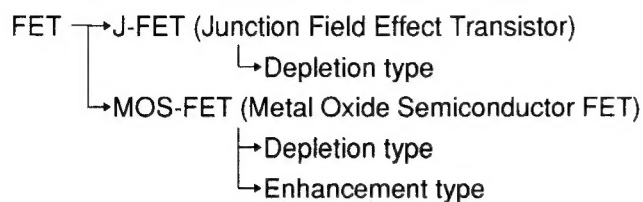


- When replacing the power MOS-FET, there are differences according to the ranks, so please replace Pch (or Nch) as a pair of identical rank.
- The parts stock for parts of the same rank as Pch (or Nch) come in packs of pairs.
When ordering a quantity of 1, one pack (containing 2) will be delivered in one bag.
Please order as (2SK1530-LBP2, 2SJ201-LBP2).
LBP2 means one pack containing one pair.
There is no need to adjust the ranks of Pch and Nch, and there is no need to adjust the ranks of the left channel and right channel either.
- Since the KA-7050R is a FET amp, even with no signal, nearly as much heat is generated as for maximum output.
When piling sets on top of each other, put this amp at the top. Placing any other unit on top of this amp interferes with the heat release and can cause harm, so do not do this.

CIRCUIT DESCRIPTION

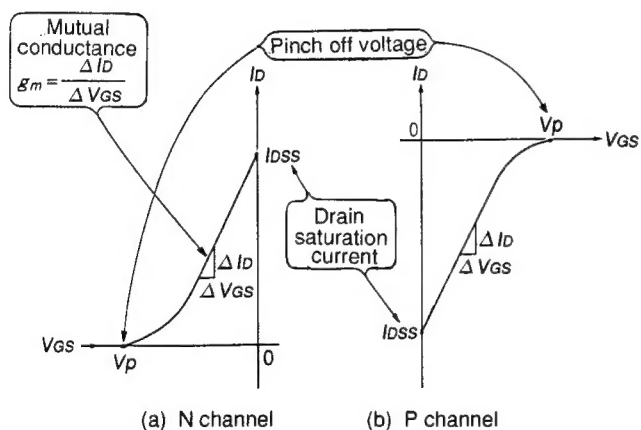
Characteristics of the power MOS-FET

1. Types of MOS-FET



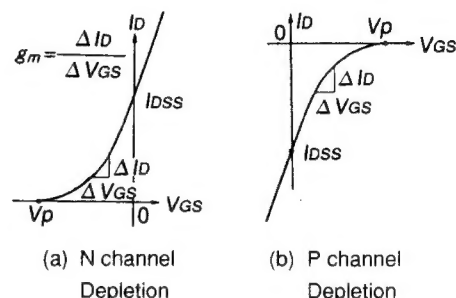
2. Characteristics of J-FET

The mutual conductance/ g_m corresponds to a general transistor h_{fe} .



3. Characteristics of MOS-FET (Depletion type)

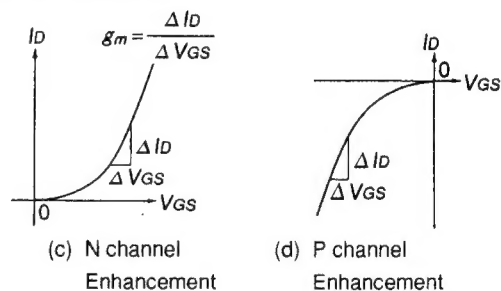
The point that differs from the J-FET is that even if the gate bias (V_{GS}) is 0V, the current continues to flow. At this time, I_{DSS} is not the drain saturation current.



4. Characteristics of MOS-FET (Enhancement type)

The power MOS-FET in this unit uses this type. As the gate bias voltage operates in the same way as a normal power transistor, it has a mechanism that it easy to use.

However, as the gate is voltage-controlled, there is no electric current flow.



KA-7050R

CIRCUIT DESCRIPTION

MICROPROCESSOR (μ PD75104G-778)

1. TEST MODE

1.1 Test Mode Using Mainframe Keys

(1) Setting

Plug in while pressing the SOURCE DIRECT key.

(2) Contents

- Switch the power on so that all LED indicators go on. Operate all tact keys and the rotary encoder to cancel all the LED indicators that go on. In the all-light mode, all the INPUT SELECTOR LED indicators do not go on at the same time. The next SELECTOR LED indicator goes on approximately 100 ms after one SELECTOR LED indicator goes on in the same order as during input selector selection using the rotary encoder, because the output current exceeds the absolute maximum rating when all the INPUT SELECTOR LED indicators go on, since each LED indicator is directly driven by a microcomputer.
- When the LOUDNESS key is pressed while the test mode is set with a mainframe key The electromotive volume decreases. When the MUTING key is pressed, the volume increases. The volume stops when the SOURCE DIRECT key is pressed.

(3) Cancellation

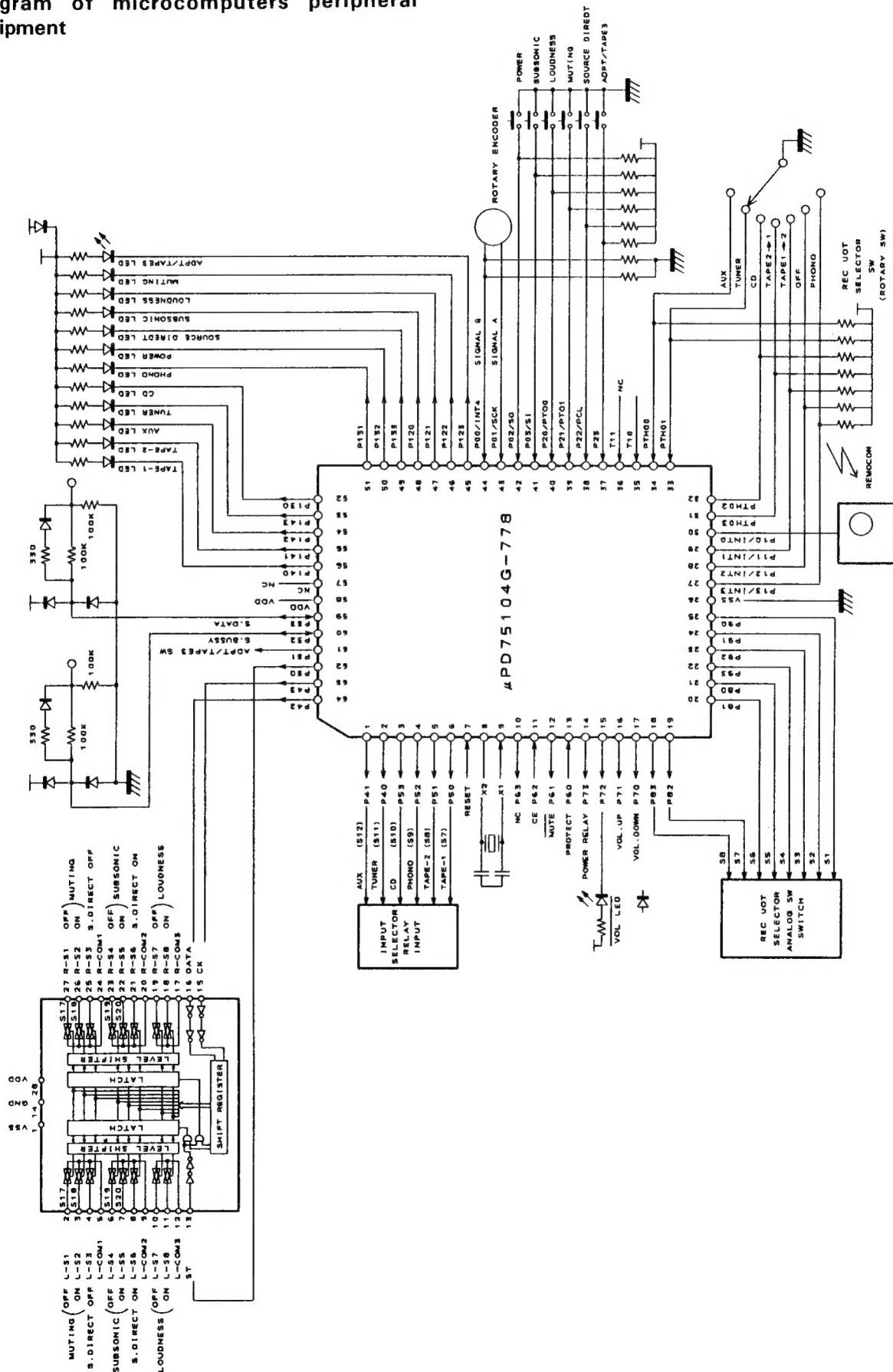
- Plug off. If there a backup function is to be used, plug off and reset the backup check data when a test mode flag is set during backup operation.

2. INITIALIZING

Insert the AC plug into a wall outlet while pressing the POWER key.

CIRCUIT DESCRIPTION

Diagram of microcomputers peripheral equipment



CIRCUIT DESCRIPTION

PIN FUNCTIONS

Pin No.	Pin name	I/O	Name	Description
1	P41	O	SRAUX	AUX SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
2	P40	O	SRTUNER	TUNER SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
3	P53	O	SRCD	CD SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
4	P52	O	SRPHONO	PHONO SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
5	P51	O	SRTAPE2	TAPE2 SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
6	P50	O	SRTAPE1	TAPE1 SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
7	RESET	I		Microcomputer reset input pin.
8	X2	O		Ceramic connection pin for microcomputer system clock oscillation (4.19 MHz).
9	X1	I		
10	P63	O	RMUTE	Unused. Enters the input mode during backup.
11	P62	I	CE	Backup state detection pin (low when active). Enters the input mode during backup.
12	P61	O	MUTE	Mute signal output pin (high when active). Enters the input mode during backup.
13	P60	I	PROTECT	Protect state detection pin (high when active). The POWER LED indicator blinks when a high signal is input to this pin during the power-on sequence. Enters the input mode during backup.
14	P73	O	POWER RELAY	POWER RELAY control pin. POWER ON: High POWER OFF: Low Enters the input mode during backup.
15	P72	O	VOL. LED	Volume index LED control pin. Goes on: Low Goes off: High Enters the input mode during backup.
16	P71	O	VOL. UP	Electromotive volume control Up signal output pin. Volume control Up: High Except volume control Up: Low Enters the input mode during backup.
17	P70	O	VOL. DOWN	Electromotive volume control Down signal output pin. Volume control Down: High Except volume control Down: Low
18 ~ 25	P83 ~ P90	O	RSW01 ~ RSW08	Control signal output pin of REC OUT SELECTOR analog switch (high when active). Outputs a signal according to the REC Out selector state as shown on the attached sheet, Outputs a low signal in the backup mode.
26	Vss		GND	Microcomputer GND pin.
27	P13/INT3	I	RSWI (PHONO)	REC out selector state setting input pin (PHONO). (Low when active.)
28	P12/INT2	I	RSWI (OFF)	REC out selector state setting input pin (OFF). (Low when active.)
29	P11/INT1	I	RSWI (TAPE1→2)	REC out selector state setting input pin (TAPE1→TAPE2). (Low when active.)

CIRCUIT DESCRIPTION

Pin No.	Pin name	I/O	Name	Description
30	PIO/INITO	I	REMOCON IN	Remote control signal input pin.
31	PTH03	I	RSWI (TAPE2→1)	REC out selector state setting input pin (TAPE2 → TAPE1). (Low when active.)
32	PTH02	I	RSWI (CD)	REC out selector state setting input pin (CD). (Low when active.)
33	PTH01	I	RSWI (TUNER)	REC out selector state setting input pin (TUNER). (Low when active.)
34	PTH00	I	RSWI (AUX)	REC out selector state setting input pin (AUX). (Low when active.)
35	TIO	I	NC	Unused.
36	TI1	I	NC	Unused.
37	P23	I	KEYIN (ADPT/TAPE3)	ADPT/TAPE3 key input pin (low when active). Enters the input mode during backup.
38	P22/PCL	I	KEYIN (SOURCE DIRECT)	SOURCE DIRECT key input pin (low when active). Enters the input mode during backup.
39	P21/PTO1	I	KEYIN (MUTING)	MUTING key input pin (low when active). Enters the input mode during backup.
40	P20/PTO0	I	KEYIN (LOUDNESS)	LOUDNESS key input pin (low when active). Enters the input mode during backup.
41	PO3/SI	I	KEYIN (SUBSONIC)	SUBSONIC key input pin (low when active).
42	PO2/SO	I	KEYIN (POWER)	POWER key input pin (low when active). Enters the input mode during backup.
43	PO1/SCK	I	REI A	ROTARY ENCODER A signal input pin. Enters the input mode during backup.
44	PO0/INT4	I	REI B	ROTARY ENCODER B signal input pin.
45	PI23	O	ADPT/TAPE23 LED	ADPT/TAPE3 LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
46	PI22	O	MUTING LED	MUTING LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
47	PI21	O	LOUDNESS LED	LOUDNESS LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
48	P120	O	SUBSONIC LED	SUBSONIC LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
49	P133	O	SOURCE DIRECT LED	SOURCE DIRECT LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
50	PI32	O	POWER LED	POWER LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
51	PI31	O	PHONO LED	PHONO LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
52	PI30	O	CD LED	CD LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.

CIRCUIT DESCRIPTION

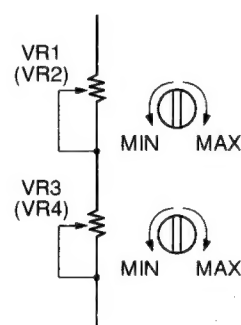
Pin No.	Pin name	I/O	Name	Description
53	PI43	O	TUNER LED	TUNER LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
54	PI42	O	AUX LED	AUX LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
55	PI41	O	TAPE2 LED	TAPE1 LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
56	PI40	O	TAPE1 LED	TAPE1 LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
57	NC			
58	Vdd			Microcomputer power supply pin.
59	P33	I/O	SDATA	Serial communication SDATA signal input/output pin. Enters the input mode during backup.
60	P32	I/O	SBUSY	Serial communication SBUSY signal input/output pin. Enters the input mode during backup.
61	P31	O	ADPT/TAPE3	ADPT/TAPE3 analog switch control signal output pin. ADPT/TAPE3 ON: High ADPT/TAPE3 OFF: low Outputs a low signal in the backup mode.
62	P30	O	ST1	FUNCTION IC TC9163N ST signal output pin for MUTING, SUBSONIC, SOURCE DIRECT, and LOUDNESS. Usually set low. Outputs a low signal in the backup mode.
63	P43	O	CK1	FUNCTION IC TC9163N CK signal output pin for MUTING, SUBSONIC, SOURCE DIRECT, and LOUDNESS. Usually set low. Outputs a low signal in the backup mode.
63	P43	O	DATA1	FUNCTION IC TC9163N DATA signal output pin for MUTING, SUBSONIC, SOURCE DIRECT, and LOUDNESS. Usually set low. Outputs a low signal in the backup mode.

ADJUSTMENT

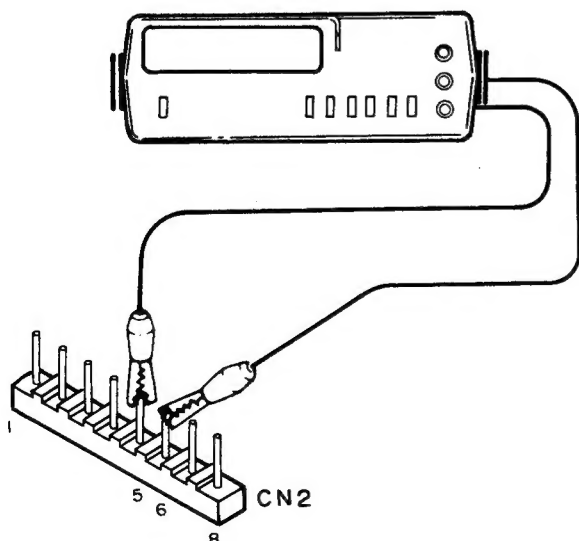
No.	Item	Input setting	Output setting	Amp setting	Adjustment location	Adjustment method	Diag.
Unless otherwise specified, set the switches as follows: POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO							
1	Offset voltage	—	Connect DC voltmeter to the Speaker B terminals.	VOLUME: 0		0V	
2	No-signal current	—	Connect DC voltmeter to CN2 (Adjustment explained below)	VOLUME: 0	VR1, VR3 (L) VR2, VR4 (R)	28 mV	(a)

No-signal current adjustment procedure

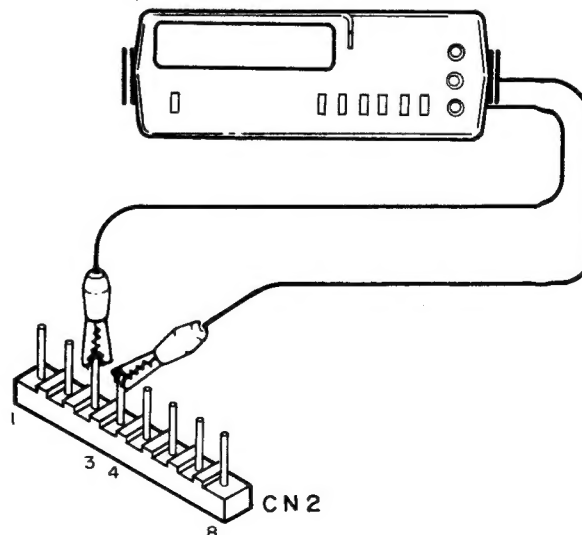
- ① Turn VR1–4 all the way to the left (counter-clockwise).
(No signal current 0)
- ② Lch adjustment
 - a) Connect the DC voltmeter to Pins 5 and 6 of CN2. (Figure a)
 - b) Turn VR1 to the right until the DC voltmeter reads 28 mV.
 - c) If the voltmeter reading does not reach 28 mV even with VR1 turned all the way to the right, turn VR3 to the right until the DC voltmeter reads 28 mV.
- ③ To adjust the Rch, connect the DC voltmeter to Pins 3 and 4 of CN2, then the same as for the Lch (Figure a), adjust first with VR2, then if necessary with VR4.



(a) L ch Adjustment



(a) R ch Adjustment

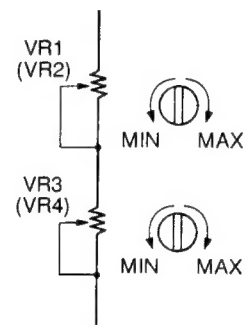


REGLAGE

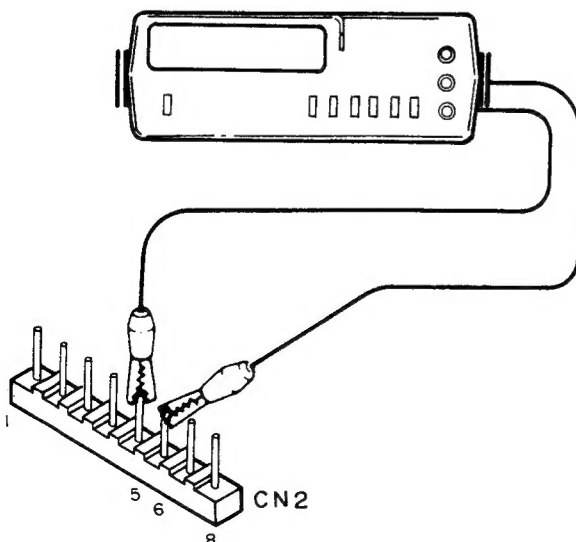
Ordre.	Sujet	Réglage d'entrée	Réglage de sortie	Réglage de l'amplifier	Points d'ajustement	Méthode d'ajustement	Figure
Saut indication contraire, régler les commutateurs respectifs comme suit : ALIMENTATION : ON HAUT-PARLEUR : B SORTIE D'ENREGISTREMENT : OFF SELECTEUR : PHONO							
1	Tension de décalage	—	Brancher le voltmètre CC sur les bornes du haut-parleur B.	VOLUME: 0		0V	
2	Courant sans signal	—	Brancher le voltmètre CC sur CN 2 (réglage expliqué ci-dessous)	VOLUME: 0	VR1, VR3 (L) VR2, VR4 (R)	28 mV	(a)

Réglage sur courant sans signal

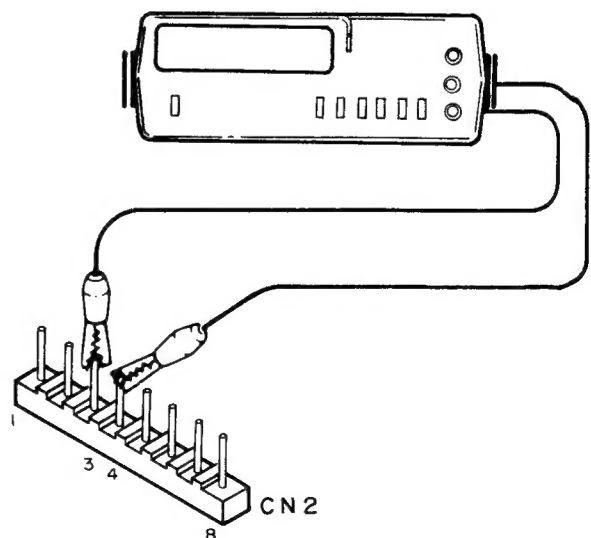
- ① Tourner VR 1-4 entièrement vers la gauche (dans le sens contraire des aiguilles d'une montre)
(Courant sans signal 0)
- ② Réglage du canal gauche
 - a) Brancher le voltmètre CC sur les broches 5 et 6 de CN 2. (Figure a)
 - b) Tourner VR 1 vers la droite jusqu'à ce que le voltmètre indique 28 mV.
 - c) Si l'indication du voltmètre n'atteint pas 28 mV, même quand VR1 est tourné entièrement vers la droite, tourner VR3 vers la droite de sorte qu'il indique 28 mV.
- ③ Pour régler le canal droit, brancher le voltmètre sur les broches 3 et 4 de CN 2, de même que pour le canal gauche (figure a), régler d'abord avec VR 2, puis si nécessaire avec VR 4.



(a) Réglage du canal gauche



(a) Réglage du canal droit



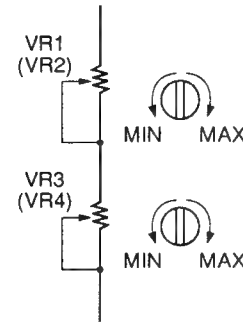
ABGLEICH

WIRING DIAGRAM

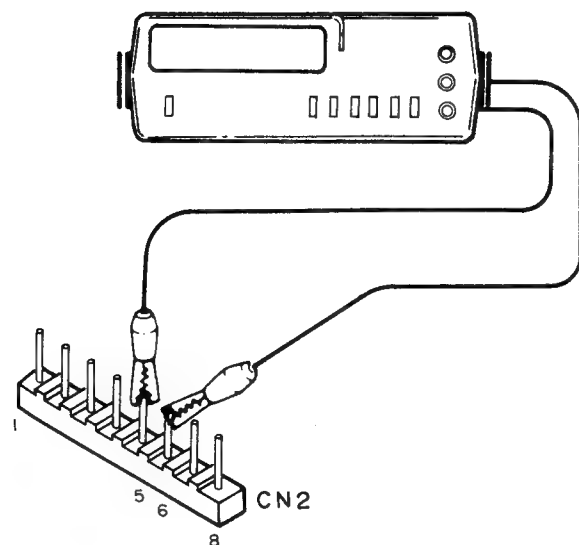
Reihenfolge	Gegenstand	Eingangseinstellung	Ausgangs-Einstellung	Amp-Einstellung	Abgleichpunkte	Abgleichmethode	Abbildung
Wenn nicht anders angegeben, die einzelnen Schalter wie folgt einstellen : NETZSCHALTER : ON LAUTSPRECHER : B AUFNAHME-AUSGANG : OFF REGLER : PHONO							
1	Verlagerungsspannung	—	Den Gleichstrom-Voltmeter an den Lautsprecheranschluß B anschließen.	VOLUME: 0		0V	
2	Kein-Signal-Spannung	—	Den Gleichstrom-Voltmeter an CN 2 anschließen (unten erklärte Einstellung).	VOLUME: 0	VR1, VR3 (L) VR2, VR4 (R)	28 mV	(a)

Einstellung der Kein-Signal-Spannung

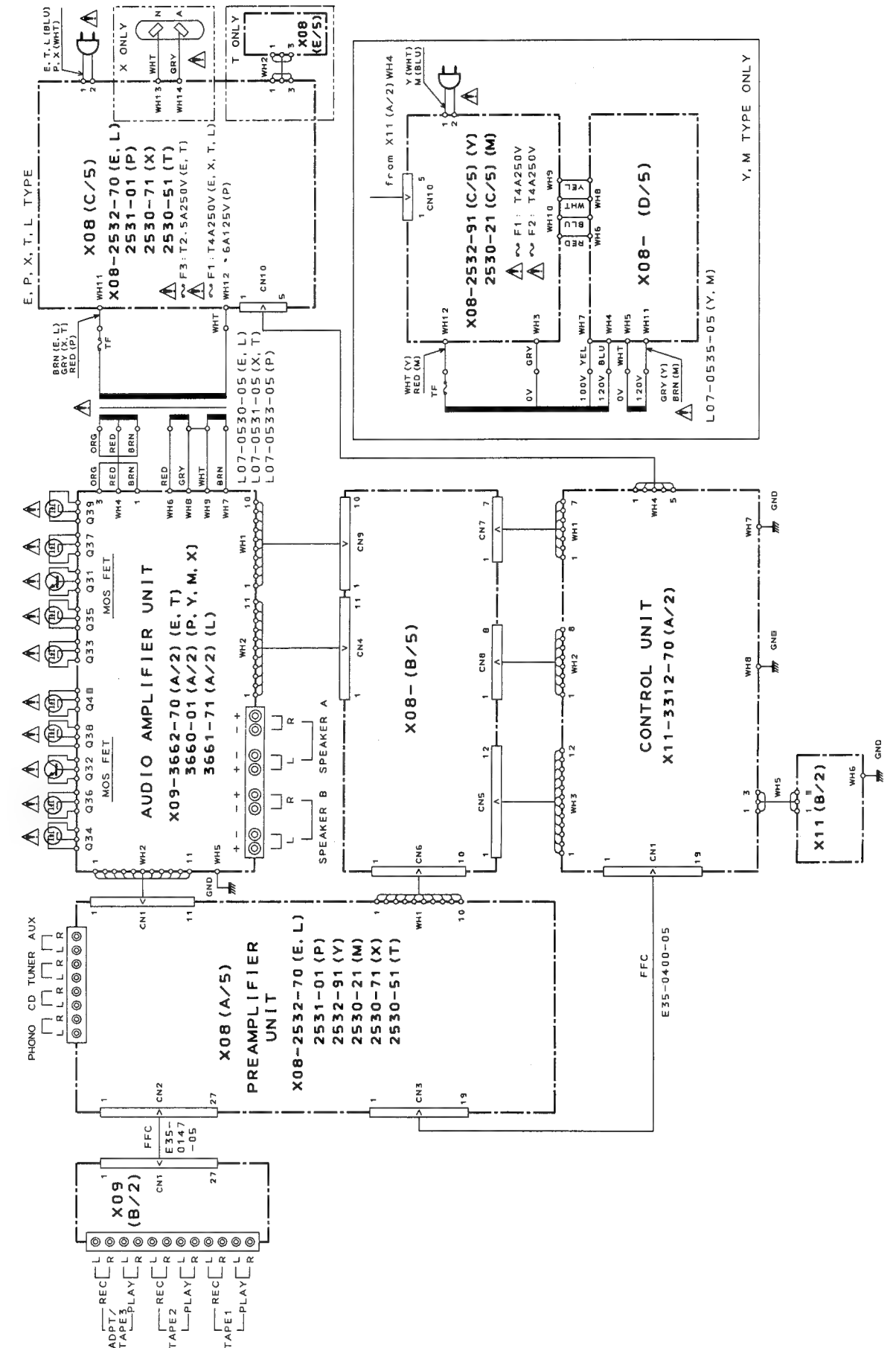
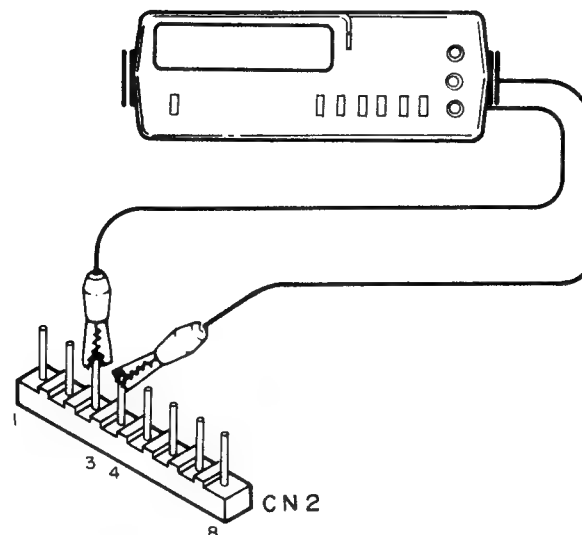
- Drehen Sie VR 1-4 ganz nach links (im Gegenurszeigersinn)
(Kein-Signal-Spannung 0)
- Einstellung des linken Kanals
 - Schließen Sie den Gleichstrom-Voltmeter an die Pole 5 und 6 von CN 2 an (Abbildung a).
 - Drehen Sie VR 1 nach rechts, bis der Gleichstrom-Voltmeter 28 mV anzeigt.
 - Falls die Messung 28 mV nicht erreicht, selbst nachdem VR 1 ganz nach rechts gedreht wurde, drehen Sie VR 3 nach rechts, bis der Gleichstrom-Voltmeter 28 mV anzeigt.
- Schließen Sie den Gleichstrom-Voltmeter zur Einstellung des rechten Kanals an die Pole 3 und 4 von CN 2 an, und stellen Sie den Kanal auf die gleiche Weise wie den linken Kanal ein (Abbildung a), d.h. zuerst VR 2 und dann, falls notwendig, VR 4 einstellen.



(a) Einstellung des linken Kanals



(a) Einstellung des rechten Kanals

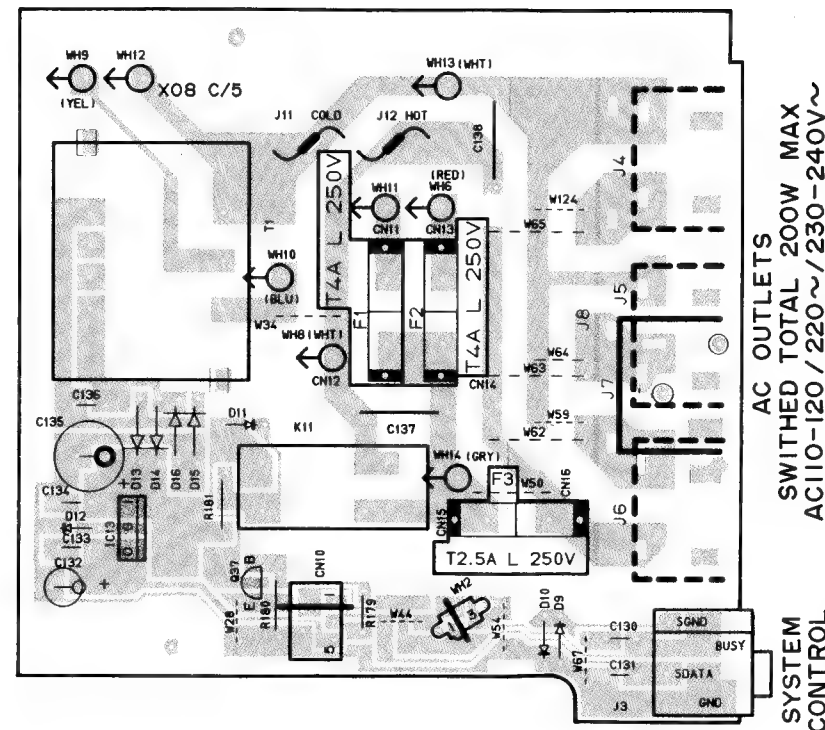
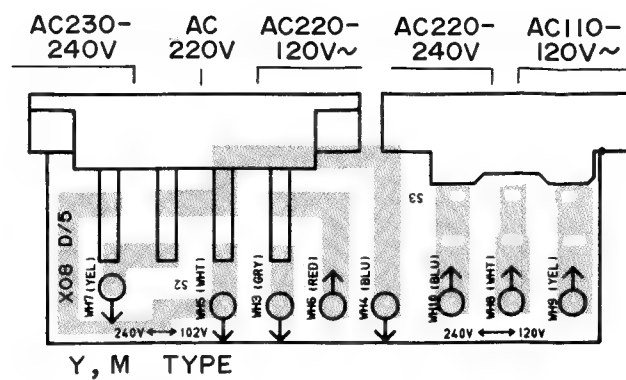


PC BOARD (Component side view)

PREAMPLIFIER UNIT (X08-253X-XX)

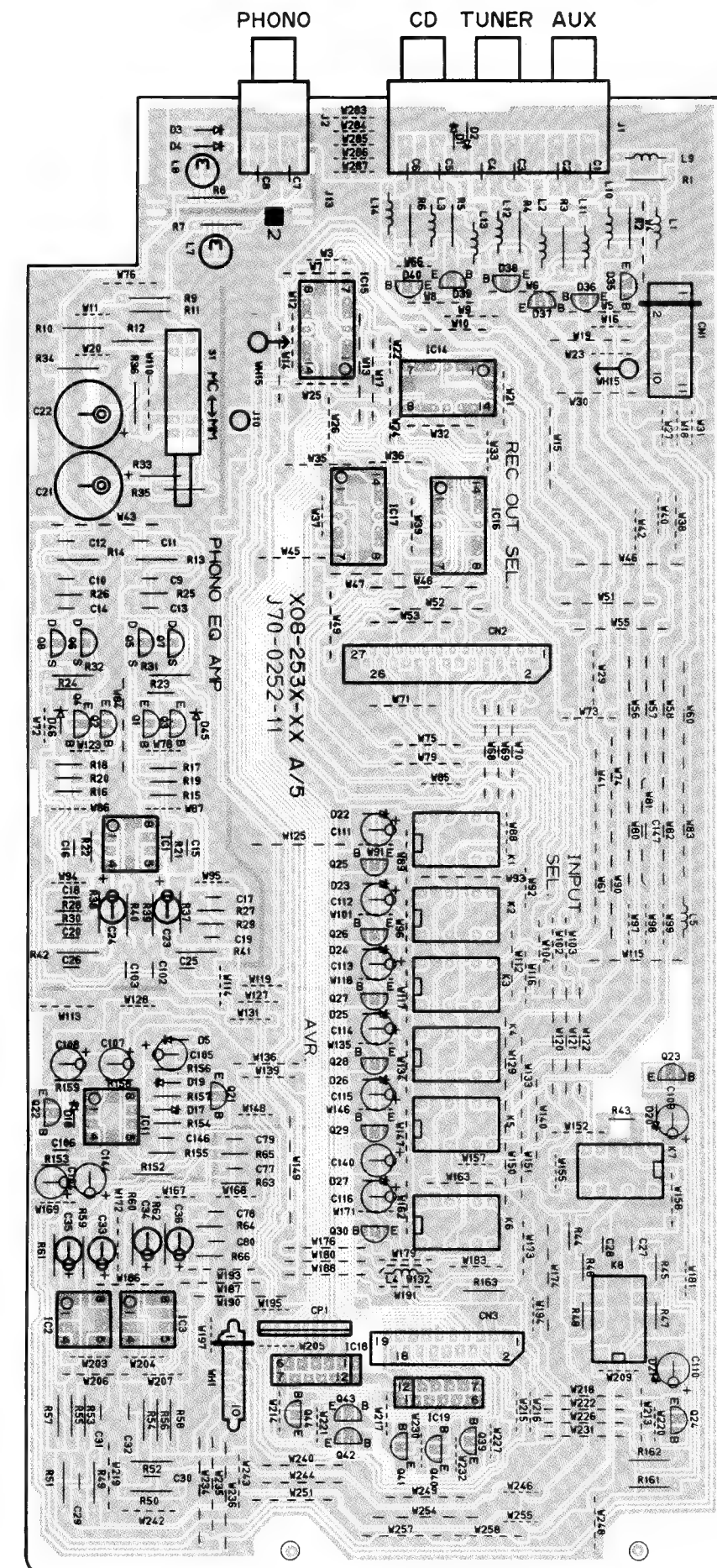
T TYPE ONLY

SYSTEM CONTROL



VOLUME CONTROL

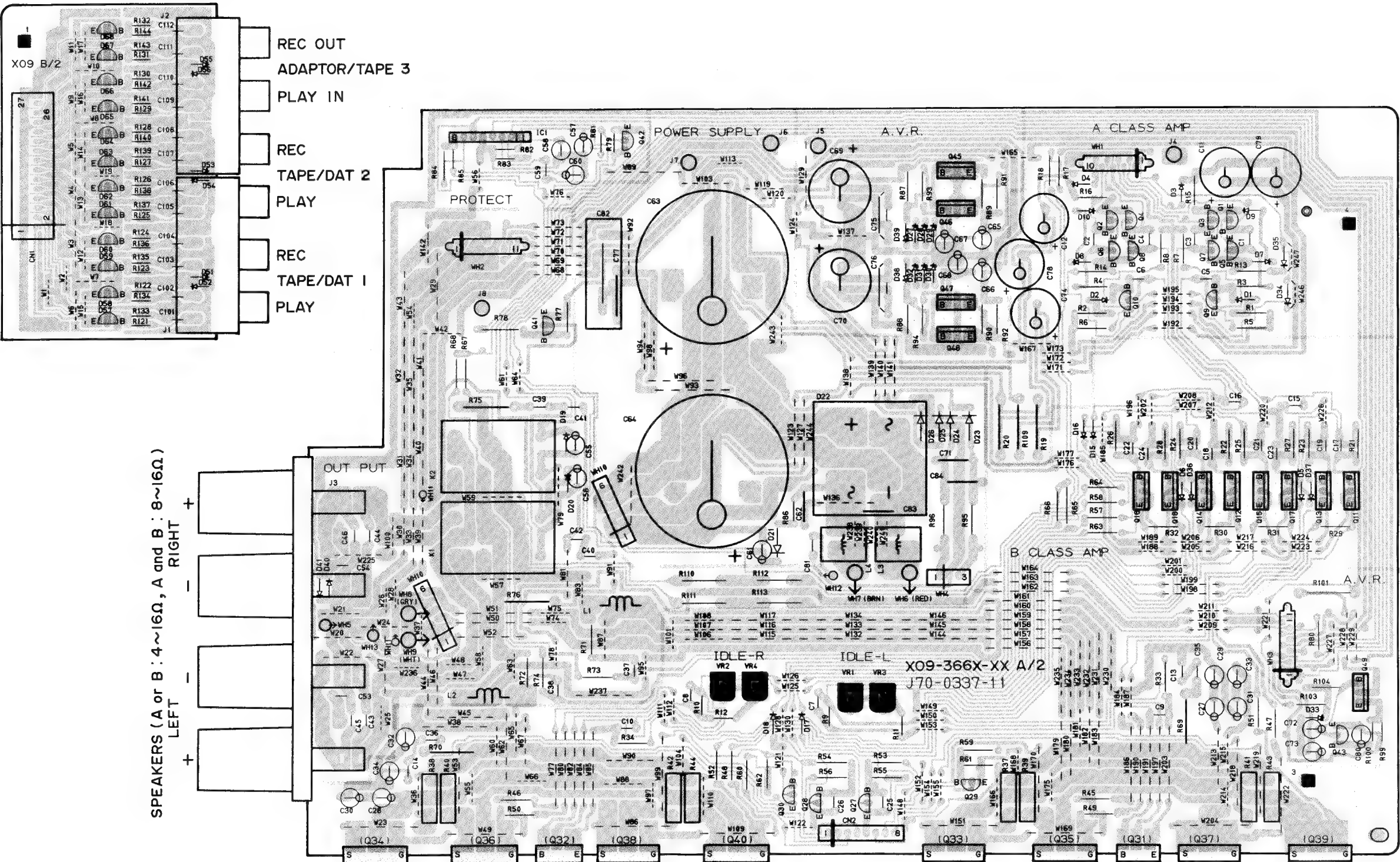
FRONT



Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (Component side view)

AUDIO UNIT (X09-3661-XX)

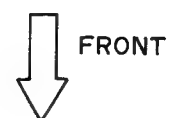
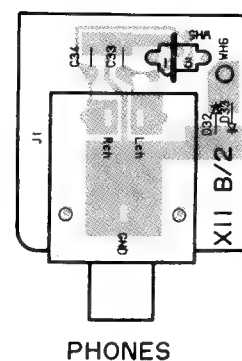
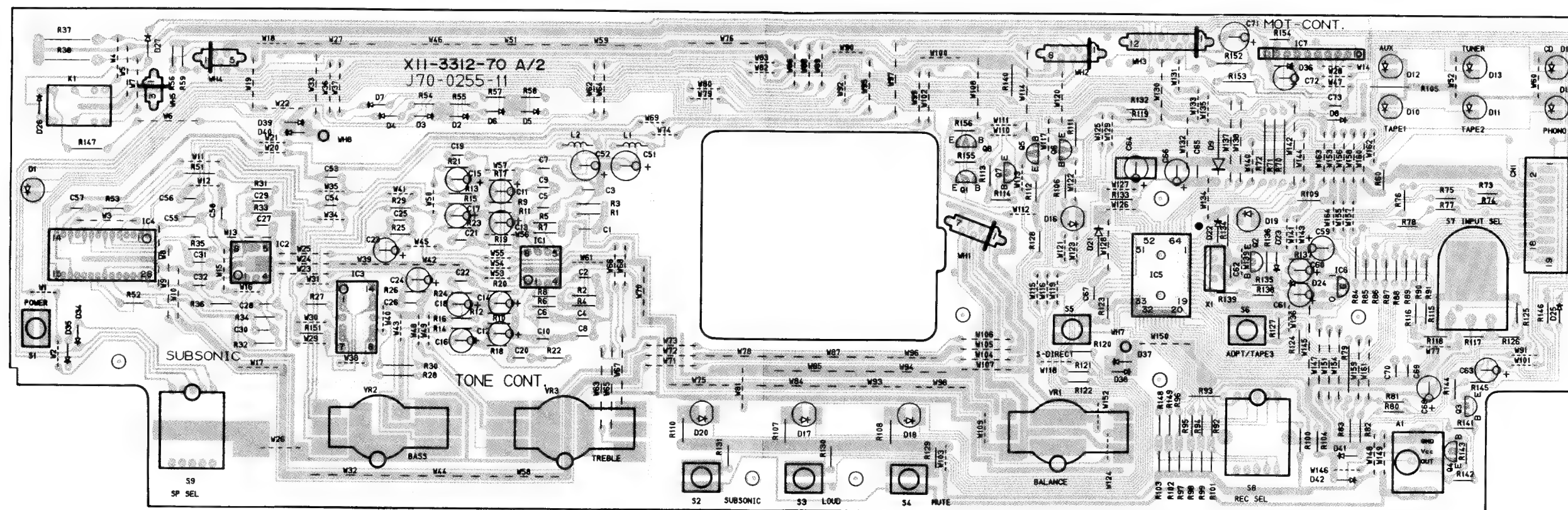


FRONT →

Refer to the schematic diagram for the values of resistors and capacitors.

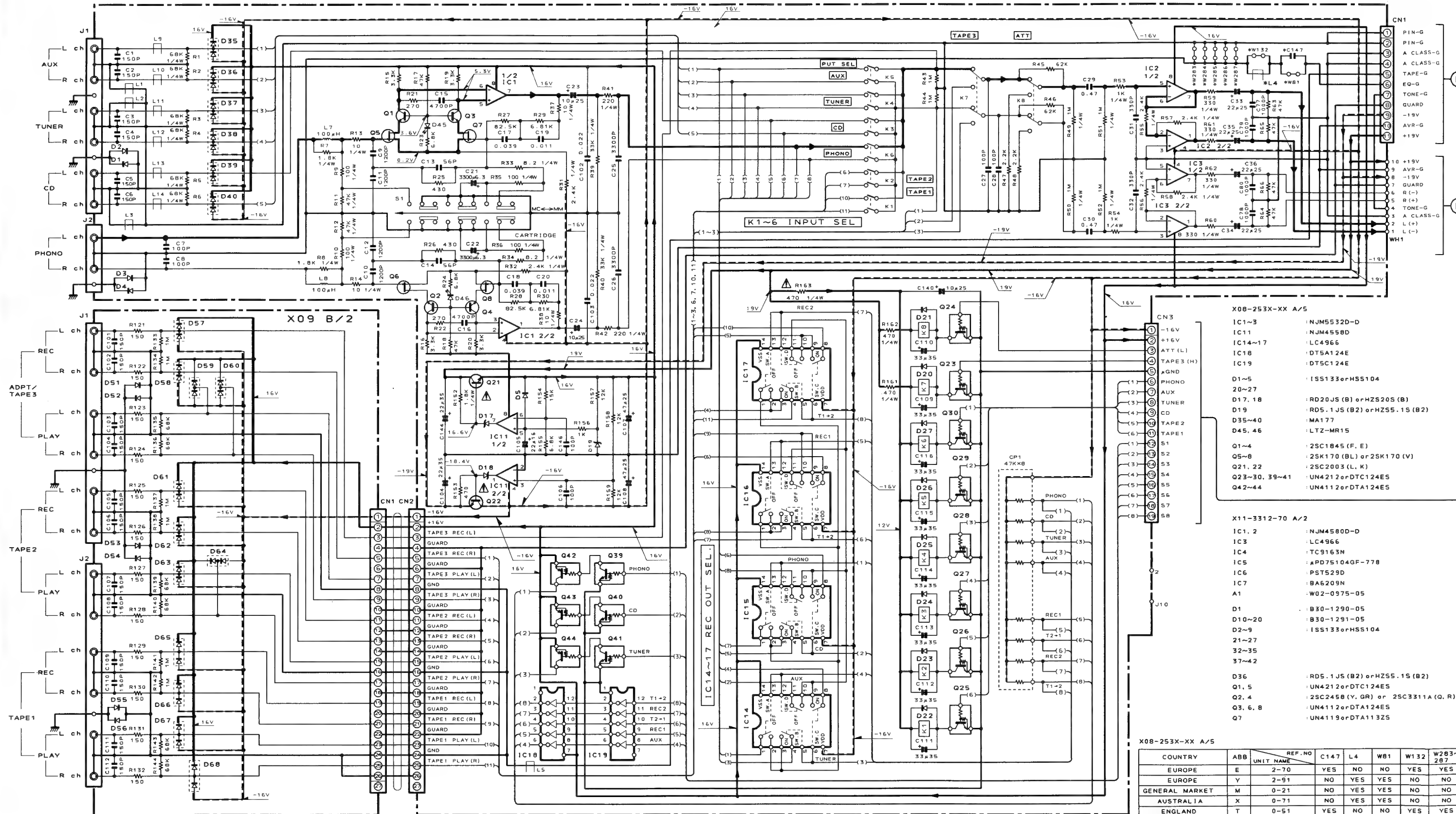
PC BOARD (Component side view)

CONTROL UNIT (X11-3312-70)



Refer to the schematic diagram for the values of resistors and capacitors.

X08-253X-XX A/5



X09 B/2

D51~56 : HSS104 or 1SS133
D57~68 : MA177

X08-253X-XX A/5

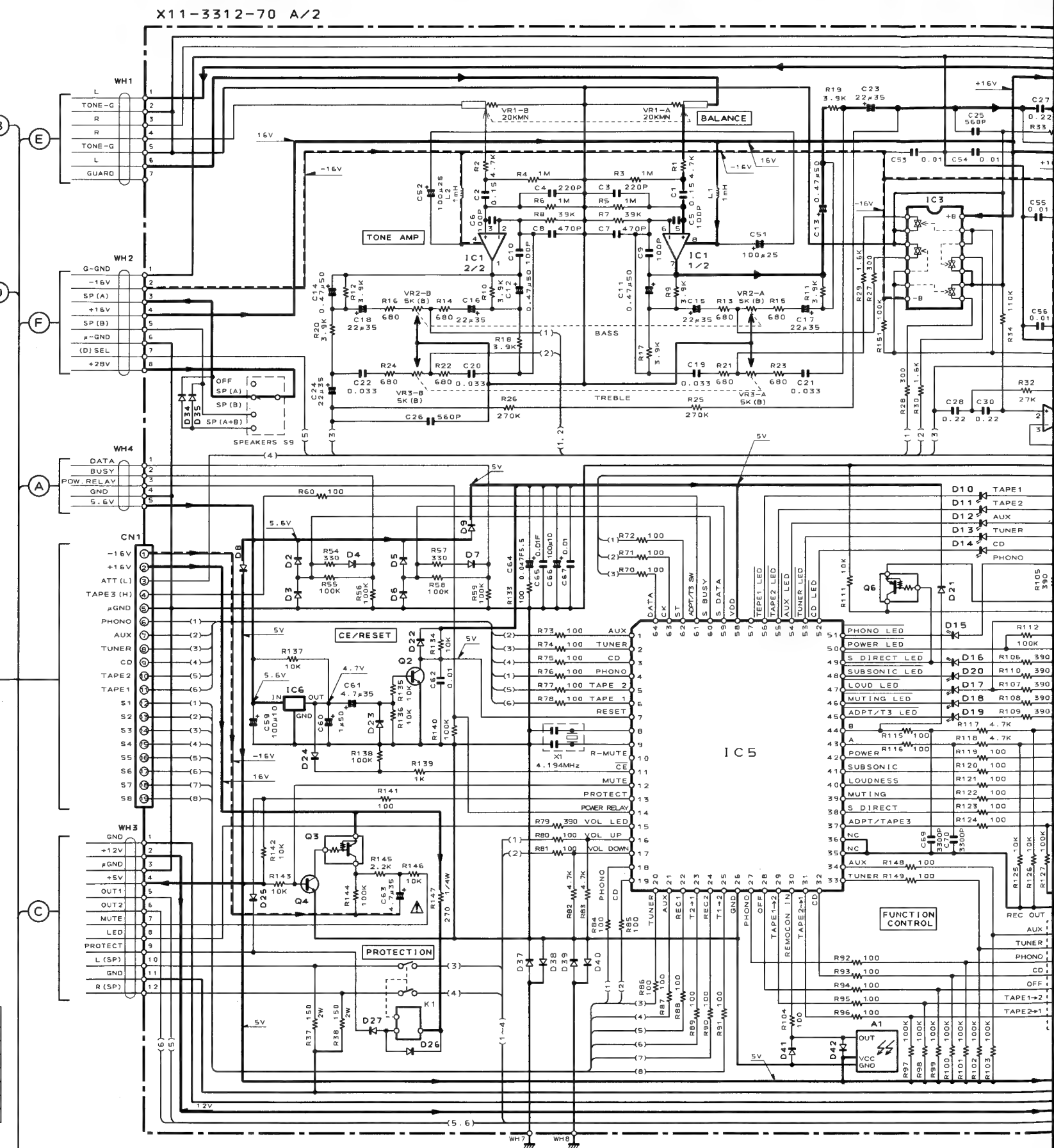
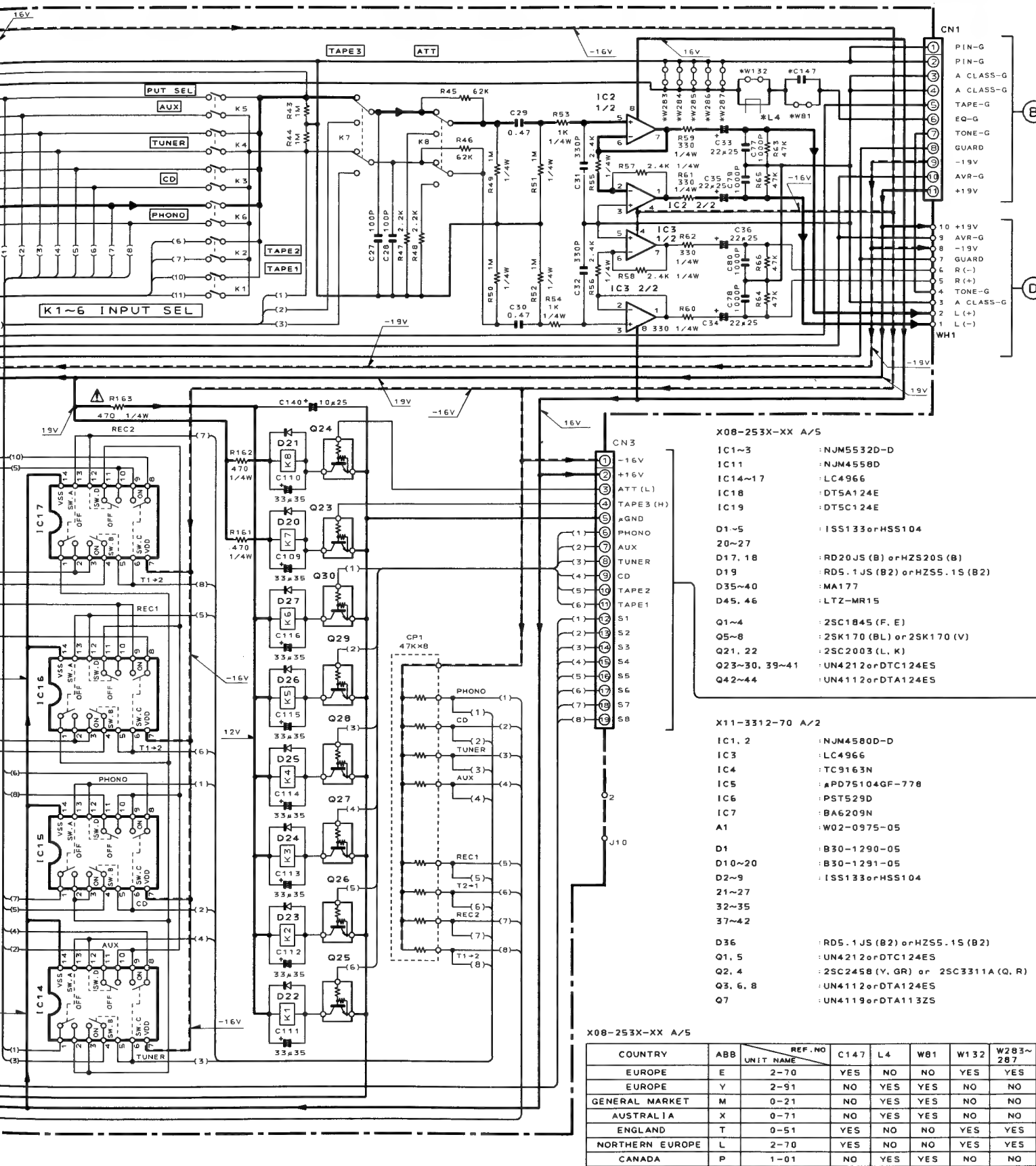
IC1~3 : NJM5532D-D
IC11 : NJM4558D
IC14~17 : LC4966
IC18 : DTS124E
IC19 : DTS124E
D1~5 : 1SS133 or HSS104
D6~10 : RD20JS (B) or HZS20S (B)
D11 : RD5.1JS (B2) or HZS5.1S (B2)
D12~14 : MA177
D15, 46 : LTZ-MR15
Q1~4 : 2SC1845 (F, E)
Q5~8 : 2SK170 (BL) or 2SK170 (V)
Q21, 22 : 2SC2003 (L, K)
Q23~30, 39~41 : UN4212 or DTC124ES
Q42~44 : UN4112 or DTA124ES

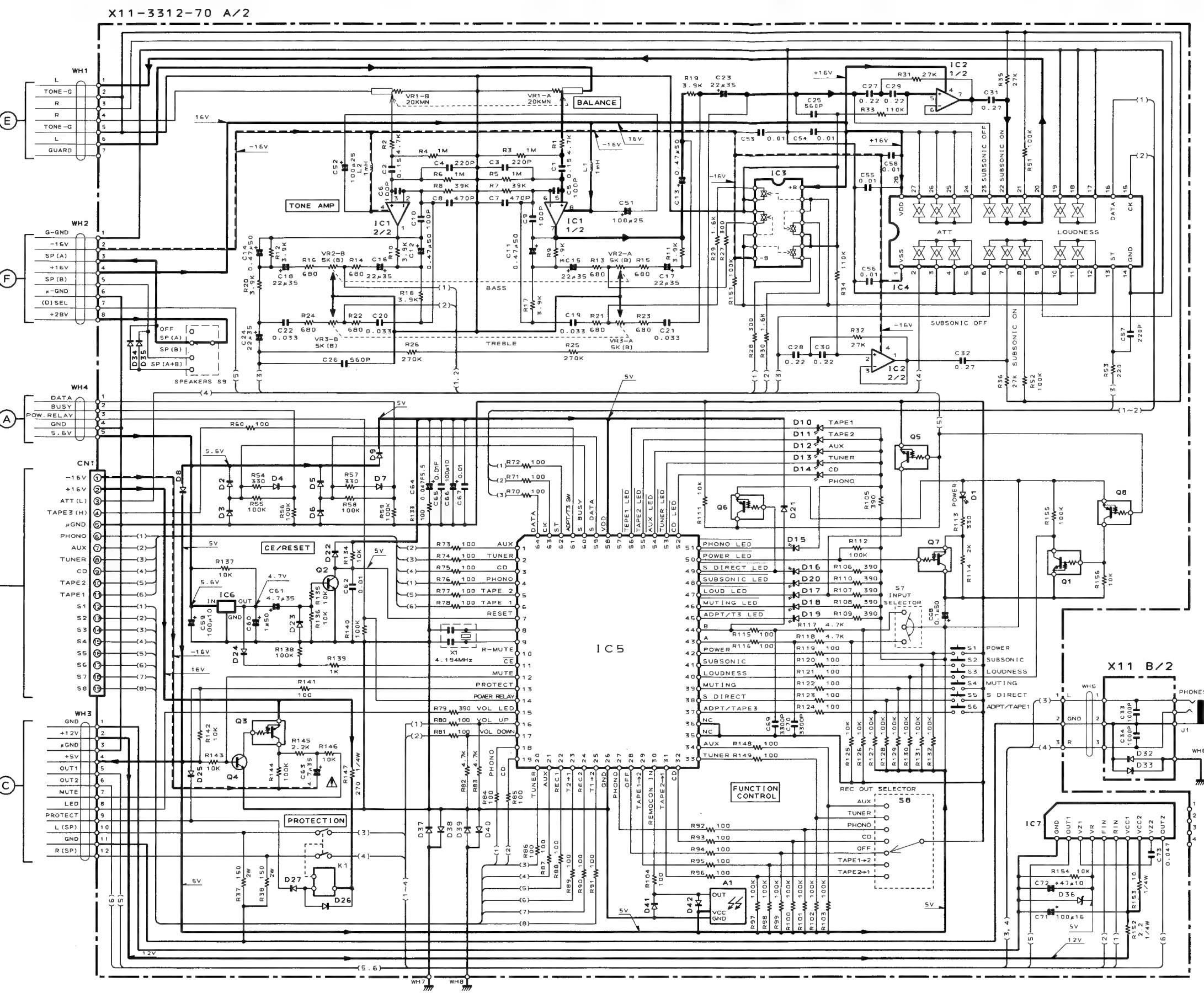
X11-3312-70 A/2

IC1, 2 : NJM4580D-D
IC3 : LC4966
IC4 : TC9163N
IC5 : PD75104GF-778
IC6 : PST529D
IC7 : BA6209N
A1 : W02-0975-05
D1 : B30-1290-05
D10~20 : B30-1291-05
D2~9 : 1SS133 or HSS104
D21~27 : RD5.1JS (B2) or HZS5.1S (B2)
D28 : UN4212 or DTC124ES
Q2, 4 : 2SC2458 (Y, GR) or 2SC3311A (Q, R)
Q3, 6, 8 : UN4112 or DTA124ES
Q7 : UN4119 or DTA1132S

X08-253X-XX A/5

COUNTRY	ABB	REF. NO	C147	L4	W81	W132	W283~287
EUROPE	E	2-70	YES	NO	NO	YES	YES
EUROPE	Y	2-91	NO	YES	YES	NO	NO
GENERAL MARKET	M	0-21	NO	YES	YES	NO	NO
AUSTRALIA	X	0-71	NO	YES	YES	NO	NO
ENGLAND	T	0-51	YES	NO	NO	YES	YES
NORTHERN EUROPE	L	2-70	YES	NO	NO	YES	YES
CANADA	P	1-01	NO	YES	YES	NO	NO





TO X08 CN10
 (A) C/B
 TO X09 WH2
 (B) A/2

TO X08 CN5
 (C) B/5

TO X08 CN6
 (D) B/5

TO X08 CN7
 (E) B/5

TO X08 CN8
 (F) B/5

2SA1124
 2SA954
 2SA992
 2SC1845
 2SC2003
 2SC2632
 2SC2878

NJM2114D
 NJM4558D
 NJM5532D-D

UPD75104GF-778

LC4966

NJM4580D-D

DTA124ES
 DTC124ES
 UN4112
 2SC2458

UPC1237HA

TC9163N

TA7805S
 UPC7805AHF

2SA1535
 2SC3944

PST529D

UN4212
 2SC3311A

2SK170

BA6209N

2SB1375
 2SB1548
 2SD2012
 2SD2374

2SK1530-LBP2
 2SJ201-LBP2

DT5A124E
 DT5C124E

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

KA-7050R
KENWOOD

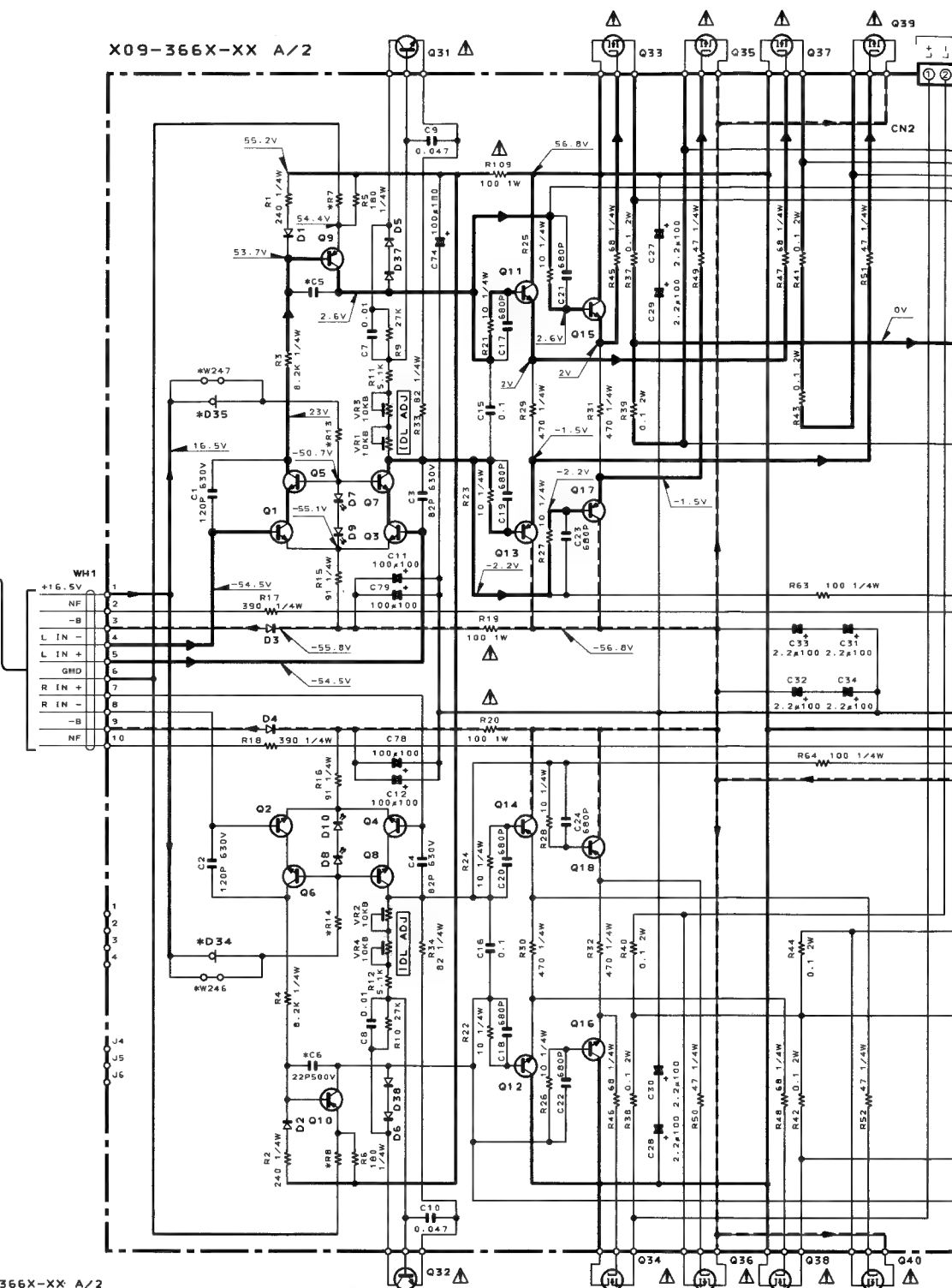
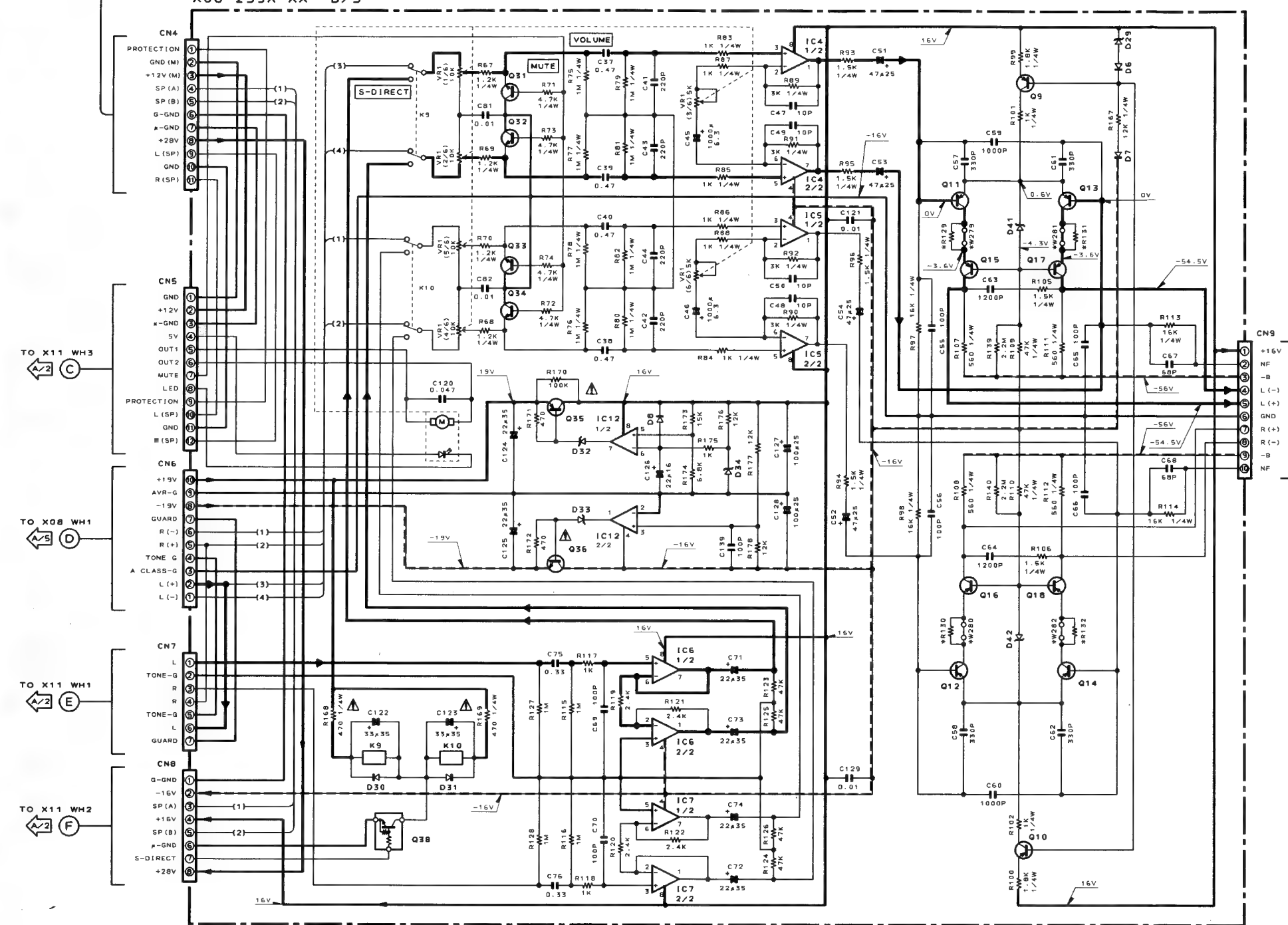
Y-08-4662-70

TO X11 WH4
A
TO X08 CN1
B

X08 B/5
IC4, 5 : NUM2114D Q9~14 : 2SA992 (F, E) Q35 : 2SA954 (L, K) D6~8 : ISS133 or H55104
IC6, 7 : NUM4580D-D Q15~18 : 2SA1124 (R, S) Q36 : 2SC2003 (L, K) D29, 34, 41, 42 : RDS-1JS (B2) or HZ55.1S (B2)
IC12 : NUM4558D Q31~34 : 2SC2878 (B) Q38 : UN4212 or DTC124ES D32, 33 : RDS1JS (B) or HZ515S (B)

X08-253X-XX B/5

X09-366X-XX A/2



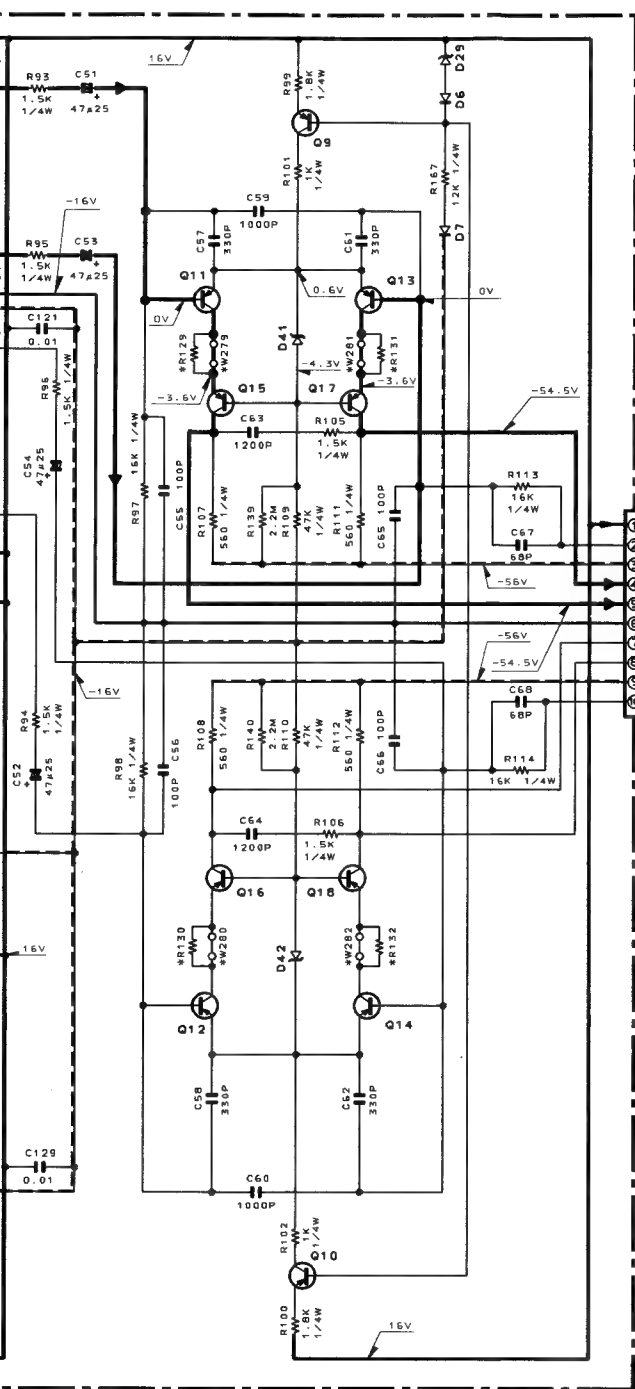
X08-253X-XX

COUNTRY	ABB	REF. NO	W34	W50	W59 63 65	W62	W64	J4 J6	J7	J8	F1	F2	F3	T1	CN13 CN14	CN15 CN16	WH3	WH13	X08 D/S	S2 S3	3A	3B	W124	W279	R129-132
		UNIT NAME															WH10	WH14						W202	
EUROPE	E	2-70	YES	NO	NO	YES	NO	NO	NO	YES	250V, 4A	NO	250V, 2.5A	L01-7653-05	NO	YES	NO	NO	NO	YES	YES	NO	YES	YES	NO
EUROPE	Y	2-91	NO	YES	NO	YES	YES	NO	YES	NO	250V, 4A	250V, 4A	NO	L01-7653-05	YES	NO	YES	NO	YES	YES	YES	NO	NO	NO	1.6K1/4W
GENERAL MARKET	M	0-21	NO	YES	NO	YES	NO	NO	NO	YES	250V, 4A	250V, 4A	NO	L01-7653-05	YES	NO	YES	NO	YES	YES	YES	NO	YES	NO	1.6K1/4W
AUSTRALIA	X	0-71	YES	YES	NO	NO	NO	NO	NO	NO	250V, 4A	NO	NO	L01-7657-05	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	1.6K1/4W
ENGLAND	T	0-51	YES	YES	YES	NO	NO	YES	NO	NO	250V, 4A	NO	NO	L01-7657-05	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES	NO
NORTHERN EUROPE	L	2-70	YES	NO	NO	YES	NO	NO	NO	YES	250V, 4A	NO	250V, 2.5A	L01-7653-05	NO	YES	NO	NO	NO	NO	YES	NO	NO	YES	NO
CANADA	P	1-01	YES	YES	NO	YES	YES	NO	YES	NO	125V, 6A	NO	NO	L01-7651-05	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	1.6K1/4W

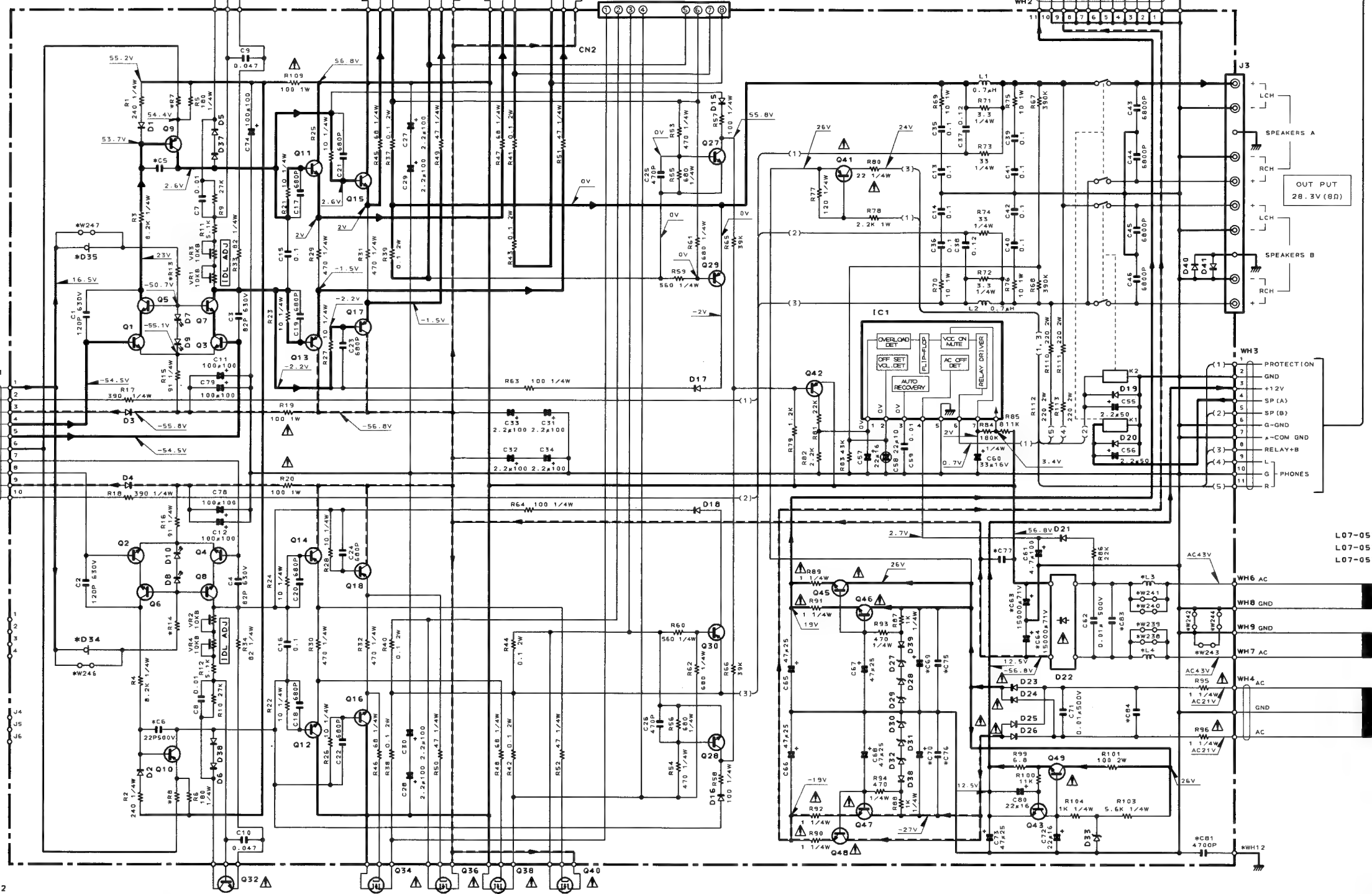
X09-366X-XX A/2

COUNTRY	ABB	REF. NO	C5, 6	C63, 64	C69, 70	C75, 76, 77	C81	C83, 84	R7, 8	R13, 14	D34, 35	L3, 4	W238-24
EUROPE	E	2-70	22P500V	C90-1981-05	2200#35	NO	4700P	NO	47K1/4W	68K1/4W	YES	NO	YES
ENGLAND	T	2-70	22P500V	C90-1981-05	2200#35	NO	4700P	NO	47K1/4W	68K1/4W	YES	NO	YES
EUROPE	Y	0-01	NO	C90-1985-05	1000#50	0.01#250V	NO	0.01#500V	43K1/4W	120K1/4W	NO	YES	NO
GENERAL MARKET	M	0-01	NO	C90-1985-05	1000#50	0.01#250V	NO	0.01#500V	43K1/4W	120K1/4W	NO	YES	NO
AUSTRALIA	X	0-01	NO	C90-1985-05	1000#50	0.01#250V	NO	0.01#500V	43K1/4W	120K1/4W	NO	YES	NO
NORTHERN EUROPE	L	1-71	22P500V	C90-1981-05	2200#35	NO	4700P	NO	47K1/4W	68K1/4W	YES	NO	YES
CANADA	P	0-01	NO	C90-1985-05	1000#50	0.01#500V	NO	0.01#500V	43K1/4W	120K1/4W	NO	YES	NO

D6~8 :ISS133orHSS104
30, 31
D29, 34, 41, 42 :R05-1J5 (B2) orHZS5-15 (B2)
D32, 33 :RD15J5 (B) orHZS155 (B)



X09-366X-XX A/2



L07-0530-05 (E.L.)
L07-0531-05 (X.T.)
L07-0533-05 (P)

CN13	CN15	WH3	WH13	X08	S2	3A	3B	W124	W279	R129~132
CN14	CN16	WH10	WH14	D/5	S3				W282	
05	NO	YES	NO	NO	NO	YES	NO	YES	YES	NO
05	YES	NO	YES	NO	YES	YES	NO	YES	NO	1.6K1/4W
05	YES	NO	YES	NO	YES	YES	NO	YES	NO	1.6K1/4W
05	NO	NO	YES	NO	NO	YES	NO	NO	NO	1.6K1/4W
05	NO	NO	NO	NO	NO	NO	YES	NO	YES	NO
05	NO	YES	NO	NO	NO	NO	YES	NO	NO	1.6K1/4W
05	NO	NO	NO	NO	NO	NO	YES	NO	NO	1.6K1/4W

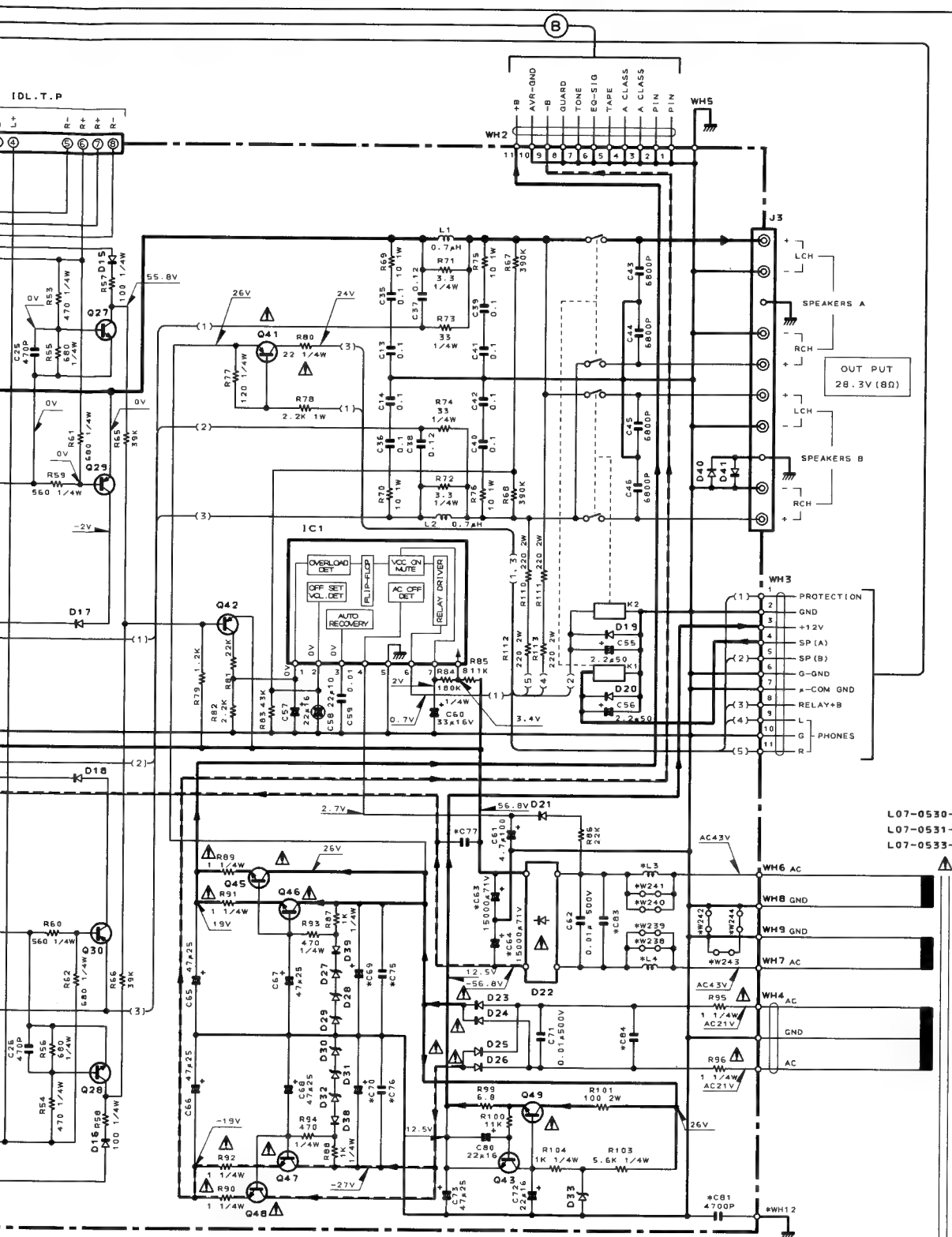
X09-366X-XX A/2

COUNTRY	ABB	REF. NO	C5, 6	C63, 64	C69, 70	C75, 76, 77	C81	C83, 84	R7, 8	R13, 14	D34, 35	L3, 4	W238~244	W246	WH12
EUROPE	E	2-70	22P500V	C90-1981-05	2200±35	NO	4700P	NO	47K1/4W	68K1/4W	YES	NO	YES	NO	YES
ENGLAND	T	2-70	22P500V	C90-1981-05	2200±35	NO	4700P	NO	47K1/4W	68K1/4W	YES	NO	YES	NO	YES
EUROPE	Y	0-01	NO	C90-1985-05	1000±50	0.01±250V	NO	0.01±500V	43K1/4W	120K1/4W	NO	YES	NO	YES	NO
GENERAL MARKET	M	0-01	NO	C90-1985-05	1000±50	0.01±250V	NO	0.01±500V	43K1/4W	120K1/4W	NO	YES	NO	YES	NO
AUSTRALIA	X	0-01	NO	C90-1985-05	1000±50	0.01±250V	NO	0.01±500V	43K1/4W	120K1/4W	NO	YES	NO	YES	NO
NORTHERN EUROPE	L	1-71	22P500V	C90-1981-05	2200±35	NO	4700P	NO	47K1/4W	68K1/4W	YES	NO	YES	NO	YES
CANADA	P	0-01	NO	C90-1985-05	1000±50	0.01±500V	NO	0.01±500V	43K1/4W	120K1/4W	NO	YES	NO	YES	NO

X09 A/2

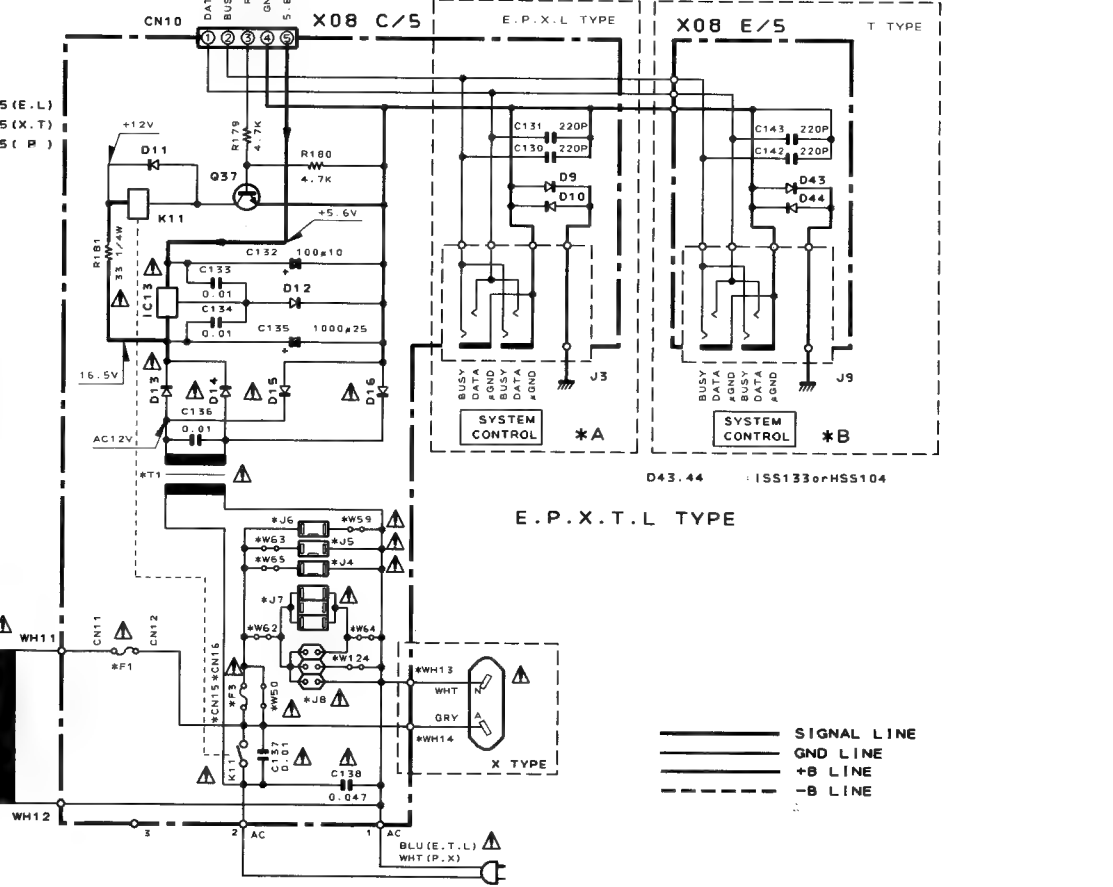
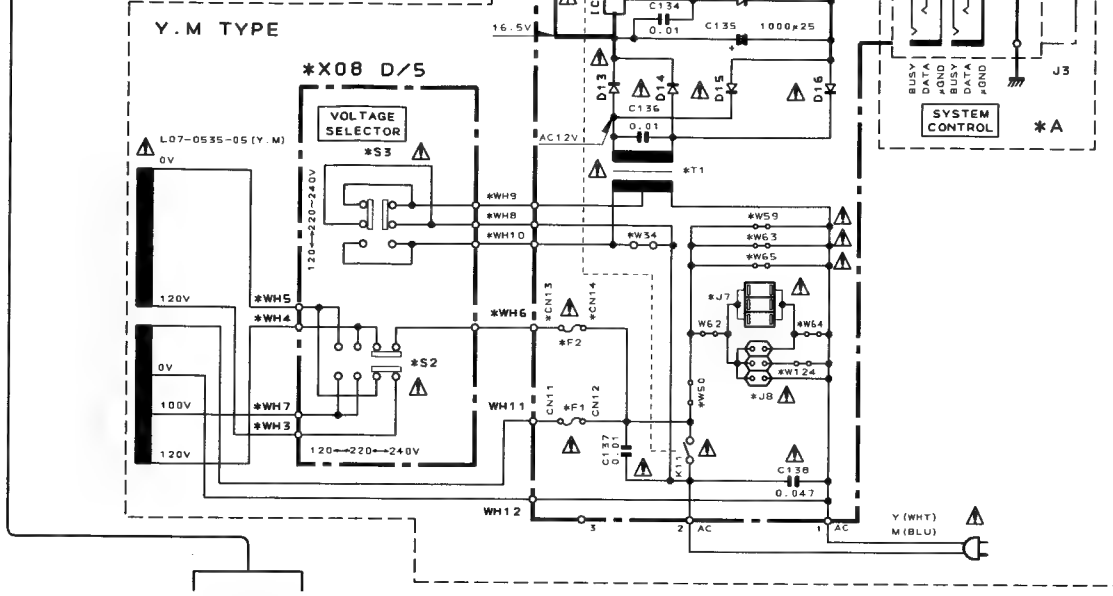
IC1	Q1~4, 27, 28	Q5~8	Q9, 10	Q11, 12, 15, 16	Q13, 14, 17, 18	Q31, 32	Q33, 34, 37, 38
:PC1237HA	:2SC1845 (F, E)	:2SC2632 (R, S)	:2SA1124 (R, S)	:2SC3944 (R, S)	:2SA1535 (R, S)	:2SC4137F19 (V, W)	:2SK1530-LBP2
	Q29, 30, 42	Q41	Q45, 46, 49	Q43	Q47, 48	Q35, 36, 39, 40	:2SJ201-LBP2
	:2SA992 (F, E)	:2SA954 (L, K)	:2SD2012 or 2SD2374	:2SC2458 (V, GR) or 2SC3311A (Q, R)	:2SB1375 or 2SB1548		

D1~6, 19, 20	D36~41	D7~10	D15~18	D21, 23~26	D22	D27~32	D33	D34, 35
:HSS104 or ISS133		:LTZ-MR15	:HSS104A or ISS131	:S56888 or ISR139-100	:DSF820*	:RD6-8ES (B2) or HZS6-8N (B2)	:RD13ES (B2) or HZS13N (B2)	:E-501



W246	WH12	X09 A/2					
W247		IC1	PC1237HA			D1~6, 19, 20	HSS104orISS133
NO	YES	Q1~4, 27, 28	2SC1845 (F, E)	Q29, 30, 42	2SA992 (F, E)	D36~41	
NO	YES	Q5~8	2SC2632 (R, S)	Q41	2SA954 (L, K)	D7~10	LTZ-MR15
YES	NO	Q9, 10	2SA1124 (R, S)	Q45, 46, 49	2SD2012or2SD2374	D15~18	HSS104AorISS131
YES	NO	Q11, 12, 15, 16	2SC3944 (R, S)	Q43	2SC2458 (Y, GR) or 2SC3311A (Q, R)	D21, 23~26	S56888orISR139-100
YES	NO	Q13, 14, 17, 18	2SA1535 (R, S)	Q47, 48	2SB1375or2SB1548	D22	DSF820*1
NO	YES	Q31, 32	2SC4137F19 (V, W)	Q35, 36, 39, 40	2SJ201-LBP2	D27~32	RD6-8ES (B2) or HZS6-8N (B2)
YES	NO	Q33, 34, 37, 38	2SK1530-LBP2			D33	RD13ES (B2) or HZS13N (B2)
						D34, 35	E-501

X08 C/5
IC13 : PC7805AHforTA78055
Q37 : 2SC2458 (Y, GR) or 2SC3311A (Q, R)
D9~12 : ISS133orHSS104
D13~16 : S56888orISR139-100



SIGNAL LINE
GND LINE
+B LINE
-B LINE

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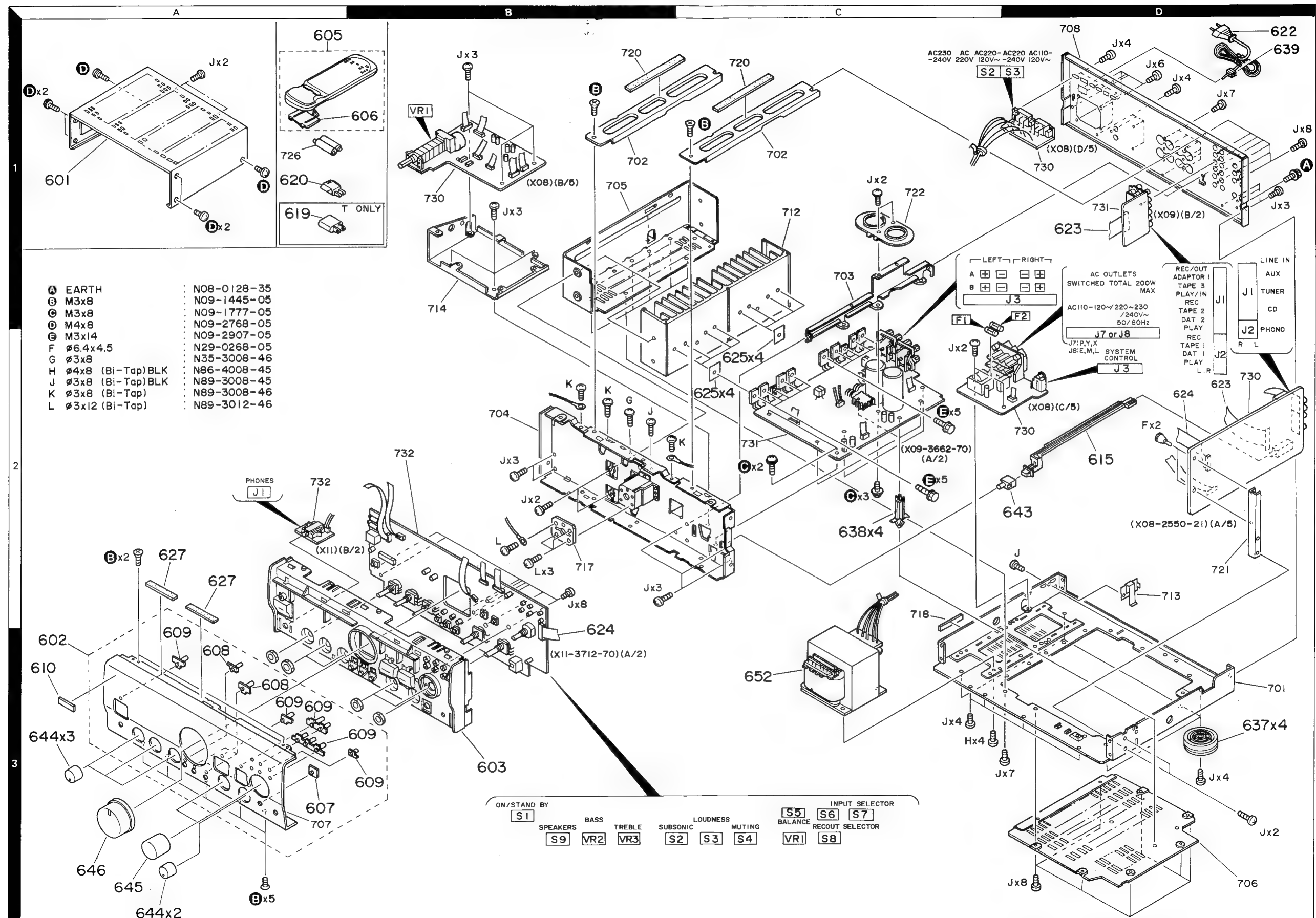
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KA-7050R
KENWOOD

KA-7050R KA-7050R

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

PREAMPLIFIER UNIT

UNIT No.	Destination
X08-2530-21	M
X08-2530-51	T
X08-2530-71	X
X08-2531-01	P
X08-2532-70	E, L
X08-2532-91	Y

AUDIO UNIT

X09-3661-71	L
X09-3662-70	E, P, Y, M, X, T

CONTROL UNIT

X11-3312-70	
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KA-7050R

KA-7050R

PARTS LIST

× New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
KA-7050R						
601	1A	*	A01-2952-01	METALLIC CABINET		
602	3A	*	A60-0239-02	PANEL ASSY		
603	3B	*	A22-1565-01	SUB PANEL		
605	1A	*	X94-1000-81	REMOTE CONTROL ASSY UNIT		
606	1B		A09-0115-13	BATTERY COVER		
607	3A	*	B11-0252-04	COLOR FILTER		
608	3A	*	B12-0205-04	INDICATOR		
609	3A, 3B	*	B12-0211-04	INDICATOR		
610	3A		B43-0287-04	KENWOOD BADGE		
-			B46-0094-03	WARRANTY CARD	Y	
-			B46-0095-03	WARRANTY CARD	Y	
-			B46-0096-33	WARRANTY CARD	X	
-			B46-0121-13	WARRANTY CARD	P	
-			B46-0122-23	WARRANTY CARD	EL	
-			B46-0143-13	WARRANTY CARD	T	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	Y	
-		*	B60-0882-00	INSTRUCTION MANUAL ENGLISH		
-		*	B60-0883-00	INSTRUCTION MANUAL FRENCH	EPL	
-		*	B60-0884-00	INSTRUCTION MANUAL SPANISH	EML	
-		*	B60-0885-00	INSTRUCTION MANUAL CHINESE	M	
-		*	B60-0886-00	INSTRUCTION MANUAL GE,DU,IT	EL	
615	2D		D21-1658-03	EXTENSION SHAFT		
△ 619	1A		E03-0049-05	AC PLUG	T	
△ 620	1A		E03-0115-05	AC PLUG ADAPTER	M	
△ 622	1D		E30-0459-05	AC POWER CORD	EML	
△ 622	1D		E30-0685-05	AC POWER CORD	Y	
△ 622	1D		E30-0974-05	AC POWER CORD	P	
△ 622	1D	*	E30-2714-05	AC POWER CORD	X	
△ 622	1D	*	E30-2718-05	AC POWER CORD	T	
623	1D, 2D		E35-0147-05	FLAT CABLE X08(CN2)-X09(CN1)		
624	3B, 2D	*	E35-0400-05	FLAT CABLE X08(CN3)-X11(CN1)		
△ J7	2D	*	E03-0141-05	AC OUTLET	X	
625	2C		F20-1322-05	INSULATING BOARD		
627	2A		G11-1372-04	SOFT TAPE		
-		*	H50-0349-04	ITEM CARTON CASE	EPYML	
-		*	H50-0567-04	ITEM CARTON CASE	XT	
-		*	H10-5314-02	POLYSTYRENE FOAMED FIXTURE		
-		*	H10-5315-02	POLYSTYRENE FOAMED FIXTURE		
-		*	H12-2131-04	PACKING FIXTURE	XT	
-			H25-0225-04	PROTECTION BAG (850X450X0.03)	EPYMXL	
-			H25-0232-04	PROTECTION BAG (235X350X0.03)	EPYMXL	
-			H25-0651-04	PROTECTION BAG (0232 PRINTED)	T	
-			H25-0654-04	PROTECTION BAG (0225 PRINTED)	T	
637	3D		J02-1072-05	FOOT		
638	2C		J19-0581-05	UNIT HOLDER		
△ 639	1D		J42-0083-05	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		
643	2D		K29-3405-04	KN0B MM/MC		
644	3A	*	K29-4412-04	KN0B SPEAKER, TONE, REC, OUT, SEL		
645	3A	*	K29-4414-04	KN0B INPUT SELECTOR		

L:Scandinavia K:USA P:Canada
Y:PX(Far East, Hawaii) T:England E:Europe
Y:AAFES(Europe) X:Australia M:Other Areas

△ indicates safety critical components.

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
646	3A	*	K29-4415-04	KNOB VOLUME CONTROL		
△ 652	3C	*	L07-0530-05	POWER TRANSFORMER	EL	
△ 652	3C	*	L07-0531-05	POWER TRANSFORMER	XT	
△ 652	3C	*	L07-0533-05	POWER TRANSFORMER	P	
△ 652	3C	*	L07-0535-05	POWER TRANSFORMER	YM	
A	1D		N08-0128-35	BINDING POST (EARTH)		
B	2A, 3A		N09-1445-05	SET SCREW (M3X8)		
C	2C		N09-1777-05	SEMS (TAPTITE SCREW)		
D	1A		N09-2768-05	SEMS (TAPTITE SCREW)(4X8)		
E	2C		N09-2907-05	SEMS (TAPTITE SCREW)(3X14)		
F	2D		N29-0268-05	PUSH RIVET		
G	2B		N35-3008-46	BINDING HEAD MACHINE SCREW		
H	3C		N86-4008-45	BINDING HEAD TAPTITE SCREW		
J	2B, 1D		N89-3008-45	BINDING HEAD TAPTITE SCREW		
K	2B, 2C		N89-3008-46	BINDING HEAD TAPTITE SCREW		
L	2B		N89-3012-46	BINDING HEAD TAPTITE SCREW		
PREAMPLIFIER UNIT (X08-2530-21: M, 0-51: T, 0-71: X, 1-01: P, 2-70: E, L, 2-91: Y)						
D45 , 46			LTZ-MR15	LED		
C1 -6			CF92FV1H151K	MF 150PF K		
C7 , 8			CF92FV1H101K	MF 100PF K		
C9 -12			CF92FV1H122J	MF 1200PF J		
C13 , 14			CC45FSL1H560J	CERAMIC 56PF J		
C15 , 16			CF92FV1H472J	MF 4700PF J		
C17 , 18			CF92FV1H393J	MF 0.039UF J		
C19 , 20			CF92FV1H113J	MF 0.011UF J		
C21 , 22			C90-1951-05	ELECTRO 3300UF 6.3WV		
C23 , 24			C90-1920-05	ELECTRO 10UF 25WV		
C25 , 26			CF92FV1H332J	MF 3300PF J		
C27 , 28			CF92FV1H101K	MF 100PF K		
C29 , 30			CF92FV1H474J	MF 0.47UF J		
C31 , 32			CF92FV1H331K	MF 330PF K		
C33 -36			C90-1921-05	ELECTRO 22UF 25WV		
C37 -40			CF92FV1H474J	MF 0.47UF J		
C41 -44			CF92FV1H221K	MF 220PF K		
C45 , 46			CE04KW0J102M	ELECTRO 1000UF 6.3WV		
C47 -50		*	C91-1462-05	FILM 10PF K		
C51 -54			C90-1922-05	ELECTRO 47UF 25WV		
C55 , 56			CF92FV1H101K	MF 100PF K		
C57 , 58			CF92FV1H331K	MF 330PF K		
C59 , 60			CF92FV1H102J	MF 1000PF J		
C61 , 62			CF92FV1H331K	MF 330PF K		
C63 , 64			CF92FV1H122J	MF 1200PF J		
C65 , 66			CF92FV1H101K	MF 100PF K		
C67 , 68		*	C91-1472-05	FILM 68PF K		
C69 , 70			CF92FV1H101K	MF 100PF K		
C71 -74			CE04KW1V220M	ELECTRO 22UF 35WV		
C75 , 76			CF92FV1H334J	MF 0.33UF J		
C77 -80			CF92FV1H102J	MF 1000PF J		
C81 , 82			CF92FV1H103J	MF 0.010UF J		
C102, 103			CF92FV1H223J	MF 0.022UF J		
C104			CE04KW1V220M	ELECTRO 22UF 35WV		
C105			CE04KW1C220M	ELECTRO 22UF 16WV		
C106			CF92FV1H101K	MF 100PF K		

L:Scandinavia

K:USA

P:Canada

Y:PX(Far East, Hawaii)

T:England

E:Europe

Y:AAFES(Europe)

X:Australia

M:Other Areas

△ indicates safety critical components.

KA-7050R

PARTS LIST

× New Parts

Parts without Parts No. are not supplied.

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
C107,108 C109-116 C120 C121 C122,123			CE04KW1E470M CE04KW1V330M CK45FF1H473Z CF92FV1H103J CE04KW1V330M	ELECTRO 47UF 25WV ELECTRO 33UF 35WV CERAMIC 0.047UF Z MF 0.010UF J ELECTRO 33UF 35WV		
C124,125 C126 C127,128 C129 C130,131			CE04KW1V220M CE04KW1C220M CE04KW1E101M CF92FV1H103J CC45FSL1H221J	ELECTRO 22UF 35WV ELECTRO 22UF 16WV ELECTRO 100UF 25WV MF 0.010UF J CERAMIC 220PF J	EPYMXL	
C132 C133,134 C135 C136 △ C137			CE04KW1A101M CK45FF1H103Z CE04KW1E102M CK45FF1H103Z C91-1439-05	ELECTRO 100UF 10WV CERAMIC 0.010UF Z ELECTRO 1000UF 25WV CERAMIC 0.010UF Z FILM 0.01UF 250VAC		
C138 C139 C140 C142,143 C144			C91-1444-05 CF92FV1H101K CE04KW1E100M CC45FSL1H221J CE04KW1V220M	MF 0.047UF 250VAC MF 100PF K ELECTRO 10UF 25WV CERAMIC 220PF J ELECTRO 22UF 35WV	T	
C146 C147			CF92FV1H101K CF92FV1H103J	MF 100PF K MF 0.010UF J	ETL	
CN2 CN3 J1 J2 J3	2D 2D		E40-4167-05 E40-4159-05 E13-0636-05 E13-0253-05 E11-0188-05	FLAT CABLE CONNECTOR FLAT CABLE CONNECTOR PHONE JACK AUX,TUNER,CD PHONE JACK PHONE MINIATURE PHONE JACK SYNCHRO	EPYMXL	
△ J4 -6 △ J7 △ J8 J9			E03-0109-05 E03-0111-05 E03-0131-05 E11-0188-05	AC OUTLET AC OUTLET AC OUTLET MINIATURE PHONE JACK SYNCHRO	T PY EML T	
△ F1 △ F1 △ F1 ,2 △ F3			F05-4025-05 F05-6029-05 F05-4025-05 F05-2525-05	FUSE (SEMKO) (250V T4A) FUSE (UL) (125V 6A) FUSE (SEMKO) (250V T4A) FUSE (SEMKO) (250V T2.5A)	EXTL P YM EL	
CN11-14 CN11,12 CN15,16 J10			J13-0075-05 J13-0075-05 J13-0075-05 J11-0098-05	FUSE CLIP FUSE CLIP FUSE CLIP WIRE CLAMPER	YM EPXTL EL	
L1 -3 L1 -5 L5 L7 ,8 L9 -14			L92-0017-05 L92-0017-05 L92-0017-05 L40-1011-47 L92-0017-05	FERRITE CORE FERRITE CORE FERRITE CORE SMALL FIXED INDUCTOR(100UH,K) FERRITE CORE	ETL PYMX ETL	
△ T1 △ T1 △ T1			L01-7651-05 L01-7653-05 L01-7657-05	POWER TRANSFORMER POWER TRANSFORMER POWER TRANSFORMER	P EYML XT	
CP1 R27 ,28 R29 ,30 R129-132 R152		*	R90-0804-05 RN14BK2C8252FTS RN14BK2C6811FTS RN14BK2E1601FTS RD14AB2E182JTS	MULTI-COMP 47KX8 J 1/4W RN 82.5K F 1/6W RN 6.81K F 1/6W RN 1.60K F 1/4W FL-PROOF RD 1.8K J 1/4W	PYMX	
R161-163			RD14AB2E471JTS	FL-PROOF RD 470 J 1/4W		

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R168,169 R181 VR1		*	RD14AB2E471JTS RD14AB2E330JTS R29-9027-05	FL-PROOF RD 470 J 1/4W FL-PROOF RD 33 J 1/4W POTENTIOMETER 10KX4 5KX2VOLUME		0
K1 -10 △ K11 S1 △ S2 △ S3		*	S76-0027-05 S76-0002-05 S40-6036-05 S31-2322-05 S31-2131-05	MAGNETIC RELAY MAGNETIC RELAY PUSH SWITCH MC/MM SLIDE SWITCH VOLTAGE SELECTOR SLIDE SWITCH VOLTAGE SELECTOR	YM YM	
D1 -12 D1 -12 D1 -8 D1 -8 D11 ,12			HSS104 1SS133 HSS104 1SS133 HSS104	DIODE DIODE DIODE DIODE DIODE	EPYMXL EPYMXL T T T	
D11 ,12 D13 -16 D13 -16 D17 ,18 D17 ,18			1SS133 S5688B 1SR139-100 HZS20S(B) RD20JS(B)	DIODE DIODE DIODE ZENER DIODE ZENER DIODE	T	
D19 D19 D20 -27 D20 -27 D29			HZS5.1S(B2) RD5.1JS(B2) HSS104 1SS133 HZS5.1S(B2)	ZENER DIODE ZENER DIODE DIODE DIODE ZENER DIODE		
D29 D30 ,31 D30 ,31 D32 ,33 D32 ,33			RD5.1JS(B2) HSS104 1SS133 HZS15S(B) RD15JS(B)	ZENER DIODE DIODE DIODE ZENER DIODE ZENER DIODE		
D34 D34 D35 -40 D41 ,42 D41 ,42			HZS5.1S(B2) RD5.1JS(B2) MA177 HZS5.1S(B2) RD5.1JS(B2)	ZENER DIODE ZENER DIODE DIODE ZENER DIODE ZENER DIODE		
D43 ,44 D43 ,44 IC1 -3 IC4 ,5 IC6 ,7			HSS104 1SS133 NJM5532D-D NJM2114D NJM4580D-D	DIODE DIODE IC(OP AMP X2) IC(OP AMP X2) IC(OP AMP X2)	T T	
IC11,12 IC13 IC13 IC14-17 IC18		*	NJM4558D TA7805S UPC7805AHF LC4966 DT5A124E	IC(OP AMP X2) IC(VOLTAGE REGULATOR/ +5V) IC(VOLTAGE REGULATOR/ +5V) IC(CMOS LOGIC BILATERAL SW) IC(TRANSISTOR ARRAY)		
IC19 Q1 -4 Q5 -8 Q5 -8 Q9 -14		*	DT5C124E 2SC1845(F,E) 2SK170(BL) 2SK170(V) 2SA992(F,E)	IC(TRANSISTOR ARRAY) TRANSISTOR FET FET TRANSISTOR		
Q15 -18 Q21 ,22 Q23 -30 Q23 -30 Q31 -34			2SA1124(R,S) 2SC2003(L,K) DTC124ES UN4212 2SC2878(B)	TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR		
Q35			2SA954(L,K)	TRANSISTOR		

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Q36 Q37 Q37 Q38 -41 Q38 -41			2SC2003(L,K) 2SC2458(Y,GR) 2SC3311A(Q,R) DTC124ES UN4212	TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR		
Q42 -44 Q42 -44			DTA124ES UN4112	DIGITAL TRANSISTOR DIGITAL TRANSISTOR		
AUDIO UNIT (X09-3661-71: L, 2-70: E, P, Y, M, X, T)						
D7 -10			LTZ-MR15	LED		
C1 ,2		*	C91-1475-05	FILM 120PF J	ETL	
C3 ,4		*	C91-1473-05	FILM 82PF K		
C5 ,6			CC45FSL2H220J	CERAMIC 22PF J		
C7 ,8			CF92FV1H103J	MF 0.010UF J		
C9 ,10			CF92FV1H473J	MF 0.047UF J		
C11 ,12			CE04KW2A101M	ELECTRO 100UF 100WV		
C13 -16			CF92FV1H104J	MF 0.10UF J		
C17 -24			CF92FV1H681J	MF 680PF J		
C25 ,26			CF92FV1H471J	MF 470PF J		
C27 -34			CE04KW2A2R2M	ELECTRO 2.2UF 100WV		
C35 ,36			CF92FV1H104J	MF 0.10UF J		
C37 ,38			CF92FV1H124J	MF 0.12UF J		
C39 -42			CF92FV1H104J	MF 0.10UF J		
C43 -46			CF92FV1H682J	MF 6800PF J		
C55 ,56			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C57			CE04KW1C220M	ELECTRO 22UF 16WV		
C58			CE04HW1A220M	NP-ELEC 22UF 10WV		
C59			CK45FF1H103Z	CERAMIC 0.010UF Z		
C60			CE04KW1C330M	ELECTRO 33UF 16WV		
C61			CE04KW2A4R7M	ELECTRO 4.7UF 100WV		
C62			CK45FE2H103P	CERAMIC 0.010UF P	ETL	
C63 ,64		*	C90-1981-05	ELECTRO 15000UF 71WV		
C63 ,64		*	C90-1985-05	ELECTRO 15000UF 71WV		PYMX
C65 -68			CE04KW1E470M	ELECTRO 47UF 25WV		
C69 ,70			CE04KW1H102M	ELECTRO 1000UF 50WV		PYMX
C69 ,70			CE04KW1V222M	ELECTRO 2200UF 35WV	ETL	
C71			CK45FE2H103P	CERAMIC 0.010UF P		
C72			CE04KW1C220M	ELECTRO 22UF 16WV		
C73			CE04KW1E470M	ELECTRO 47UF 25WV		
C74			CE04KW2A101M	ELECTRO 100UF 100WV		
C75 -77			C91-0971-05	FILM 0.01UF 250WV	PYMX	
C78 ,79			CE04KW2A101M	ELECTRO 100UF 100WV		
C80			CE04KW1C220M	ELECTRO 22UF 16WV		
C83 ,84			CK45FE2H103P	CERAMIC 0.010UF P		
C101-112			CF92FV1H151K	MF 150PF K		
CN1	1D		E40-4207-05	FLAT CABLE CONNECTOR	EPYMX L	
J1 ,2			E13-0636-05	PHONE JACK ADAPTOR/TAPE1,2,3		
J3			E20-0839-15	SCREW TERMINAL BOARD SPEAKERS		
J3		*	E70-0029-05	SCREW TERMINAL BOARD SPEAKERS		
J4 -6			J11-0098-05	WIRE CLAMPER		
L1 ,2		*	L39-1318-05	PHASE COMPENSATION COIL	PYMX	
L3 ,4			L39-0085-05	PHASE COMPENSATION COIL		
R1 ,2		*	RD14AB2E241JTS	FL-PROOF RD 240 J 1/4W		

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R3 ,4 R5 ,6 R15 ,16 R19 ,20 R21 -28		*	RD14AB2E822JTS RD14AB2E181JTS RD14AB2E910JTS RS14GB3A101JKW RD14AB2E100JTS	FL-PROOF RD 8.2K J 1/4W FL-PROOF RD 180 J 1/4W FL-PROOF RD 91 J 1/4W FL-PROOF RS 100 J 1W FL-PROOF RD 10 J 1/4W		
R29 -32 R33 ,34 R37 -44 R45 -48 R49 -52		*	RD14AB2E471JTS RD14AB2E820JTS R92-0205-05 RD14AB2E680JTS RD14AB2E470JTS	FL-PROOF RD 470 J 1/4W FL-PROOF RD 82 J 1/4W METAL-PLATE 0.1 K 2W FL-PROOF RD 68 J 1/4W FL-PROOF RD 47 J 1/4W		
R53 ,54 R55 ,56 R57 ,58 R59 ,60 R61 ,62			RD14AB2E471JTS RD14AB2E681JTS RD14AB2E101JTS RD14AB2E561JTS RD14AB2E681JTS	FL-PROOF RD 470 J 1/4W FL-PROOF RD 680 J 1/4W FL-PROOF RD 100 J 1/4W FL-PROOF RD 560 J 1/4W FL-PROOF RD 680 J 1/4W		
R63 ,64 R69 ,70 R71 ,72 R73 ,74 R75 ,76		*	RD14AB2E101JTS RS14GB3A100JKW RD14AB2E3R3JTS RD14AB2E330JTS RS14GB3A100JKW	FL-PROOF RD 100 J 1/4W FL-PROOF RS 10 J 1W FL-PROOF RD 3.3 J 1/4W FL-PROOF RD 33 J 1/4W FL-PROOF RS 10 J 1W		
R77 R78 R80 R87 ,88 R89 -92		*	RD14AB2E121JTS RS14DB3A222JTE RD14AB2E220JTS RD14AB2E102JTS RD14AB2E3R3JTS	FL-PROOF RD 120 J 1/4W FL-PROOF RS 2.2K J 1W FL-PROOF RD 22 J 1/4W FL-PROOF RD 1.0K J 1/4W FL-PROOF RD 3.3 J 1/4W		
R93 ,94 R95 ,96 R101 R103 R109		*	RD14AB2E471JTS RD14AB2E1R0JTS RS14DB3D101JTE RD14AB2E562JTS RS14GB3A101JKW	FL-PROOF RD 470 J 1/4W FL-PROOF RD 1.0 J 1/4W FL-PROOF RS 100 J 2W FL-PROOF RD 5.6K J 1/4W FL-PROOF RS 100 J 1W		
R110-113 VR1 -4			RS14DB3D221JTE R12-3685-05	FL-PROOF RS 220 J 2W TRIMMING POT.(10K) IDL ADJ		
K1 ,2			S51-2096-05	MAGNETIC RELAY		
D1 -6 D1 -6 D15 -18 D15 -18 D19 ,20			HSS104 1SS133 HSS104A 1SS131 HSS104	DIODE DIODE DIODE DIODE DIODE		
D19 ,20 D21 D21 D22 D23 -26			1SS133 S5688B 1SR139-100 D5FB20*1 S5688B	DIODE DIODE DIODE DIODE DIODE		
D23 -26 D27 -32 D27 -32 D33 D33			1SR139-100 HZS6.8N(B2) RD6.8ES(B2) HZS13N(B2) RD13ES(B2)	DIODE ZENER DIODE ZENER DIODE ZENER DIODE ZENER DIODE		
D34 ,35 D36 -41 D36 -41 D51 -56 D51 -56		*	E-501 HSS104 1SS133 HSS104 1SS133	CONSTANT CURRENT DIODE DIODE DIODE DIODE DIODE	ETL	

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D57 -68 IC1 Q1 -4 Q5 -8 Q9 ,10 Q11 ,12 Q13 ,14 Q15 ,16 Q17 ,18 Q27 ,28 Q29 ,30 Q31 ,32 Q33 ,34 Q35 ,36 Q37 ,38 Q39 ,40 Q41 Q42 Q43 Q43 Q45 ,46 Q45 ,46 Q47 ,48 Q47 ,48 Q49 Q49			MA177 UPC1237HA 2SC1845(F,E) 2SC2632(R,S) 2SA1124(R,S) 2SC3944(R,S) 2SA1535(R,S) 2SC3944(R,S) 2SA1535(R,S) 2SC1845(F,E) 2SA992(F,E) 2SC4137F19(V,W) 2SK1530-LBP2 2SJ201-LBP2 2SK1530-LBP2 2SJ201-LBP2 2SA954(L,K) 2SA992(F,E) 2SC2458(Y,GR) 2SC3311A(Q,R) 2SD2012 2SD2374 2SB1375 2SB1548 2SD2012 2SD2374	DIODE IC(Power AMP) TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR FET FET FET FET TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
CONTROL UNIT (X11-3312-70)						
D1 D10 -20 C1 ,2 C3 ,4 C5 ,6 C7 ,8 C9 ,10 C11 -14 C15 -18 C19 -22 C23 ,24 C25 ,26 C27 -30 C31 ,32 C33 ,34 C51 ,52 C53 -56 C57 C58 C59 C60 C61 C62 C63 C64 C65 C66			B30-1290-05 B30-1291-05 CF92FV1H154J CF92FV1H221K CF92FV1H101K CF92FV1H471J CF92FV1H101K CE04KW1HR47M CE04KW1V220M CF92FV1H333J CE04KW1V220M CF92FV1H561J CF92FV1H224J CF92FV1H274J CF92FV1H102J CE04KW1E101M CF92FV1H103J CC45FSL1H221J CF92FV1H103J CE04KW1A101M CE04KW1H010M CE04KW1V4R7M CK45FF1H103Z CE04KW1V4R7M C90-1826-05 CK45FF1H103Z CE04KW1A101M	LED (LN21RCASLX(U)-(TA4)) LED (LN21CPSLX(V)-(TA4)) MF 0.15UF J MF 220PF K MF 100PF K MF 470PF J MF 100PF K ELECTRO 0.47UF 50WV ELECTRO 22UF 35WV MF 0.033UF J ELECTRO 22UF 35WV MF 560PF J MF 0.22UF J MF 0.27UF J MF 1000PF J ELECTRO 100UF 25WV MF 0.010UF J CERAMIC 220PF J MF 0.010UF J ELECTRO 100UF 10WV ELECTRO 1.0UF 50WV ELECTRO 4.7UF 35WV CERAMIC 0.010UF Z ELECTRO 4.7UF 35WV BACKUP 0.047F 5.5WV CERAMIC 0.010UF Z ELECTRO 100UF 10WV		

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C67 C68 C69 ,70 C71 C72			CK45FF1H103Z CE04KW1HOR1M CK45FB1H332K CE04KW1C101M CE04KW1A470M	CERAMIC 0.010UF Z ELECTRO 0.1UF 50WV CERAMIC 3300PF K ELECTRO 100UF 16WV ELECTRO 47UF 10WV		
C73			CK45FF1H473Z	CERAMIC 0.047UF Z		
CN1 J1	3B		E40-4199-05 E11-0208-05	FLAT CABLE CONNECTOR PHONE JACK PHONES		
L1 ,2 X1			L40-1021-14 L78-0267-05	SMALL FIXED INDUCTOR(1.0MH,K) RESONATOR 4.194MHZ		
R37 ,38 R147 R152 R153 VR1			RS14DB3D151JTE RD14AB2E271JTS RD14AB2E2R2JTS RD14AB2E100JTS R06-3076-05	FL-PROOF RS 150 J 2W FL-PROOF RD 270 J 1/4W FL-PROOF RD 2.2 J 1/4W FL-PROOF RD 10 J 1/4W POTENTIOMETER(20K) BALANCE		
VR2 ,3		*	R06-2027-05	POTENTIOMETER(5K) BASS,TREBLE		
K1 S1 -6 S8 S9		*	S76-0027-05 S40-1064-05 S60-0014-05 S60-0013-05	MAGNETIC RELAY PUSH SWITCH KEY BOARD ROTARY SWITCH REC OUT SELECTOR ROTARY SWITCH SPEAKERS		
S7		*	T99-0525-05	ROTARY ENCODER INPUT SELECTOR		
D2 -9 D2 -9 D21 -27 D21 -27 D32 -35			HSS104 1SS133 HSS104 1SS133 HSS104	DIODE DIODE DIODE DIODE DIODE		
D32 -35 D36 D36 D37 -42 D37 -42			1SS133 HZS5.1S(B2) RD5.1JS(B2) HSS104 1SS133	DIODE ZENER DIODE ZENER DIODE DIODE DIODE		
IC1 ,2 IC3 IC4 IC5 IC6			NJM4580D-D LC4966 TC9163N UPD75104GF-778 PST529D	IC(OP AMP X2) IC(CMOS LOGIC BILATERAL SW) IC(BILATERAL SWITCH X16) IC(4BIT MICROPROCESSOR) IC(SYSTEM RESET)		
IC7 Q1 Q1 Q2 Q2			BA6209N DTC124ES UN4212 2SC2458(Y,GR) 2SC3311A(Q,R)	IC(MOTOR DRIVER) DIGITAL TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR		
Q3 Q3 Q4 Q4 Q5			DTA124ES UN4112 2SC2458(Y,GR) 2SC3311A(Q,R) DTC124ES	DIGITAL TRANSISTOR DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR DIGITAL TRANSISTOR		
Q5 Q6 Q6 Q7 Q7			UN4212 DTA124ES UN4112 DTA113ZS UN4119	DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR DIGITAL TRANSISTOR		

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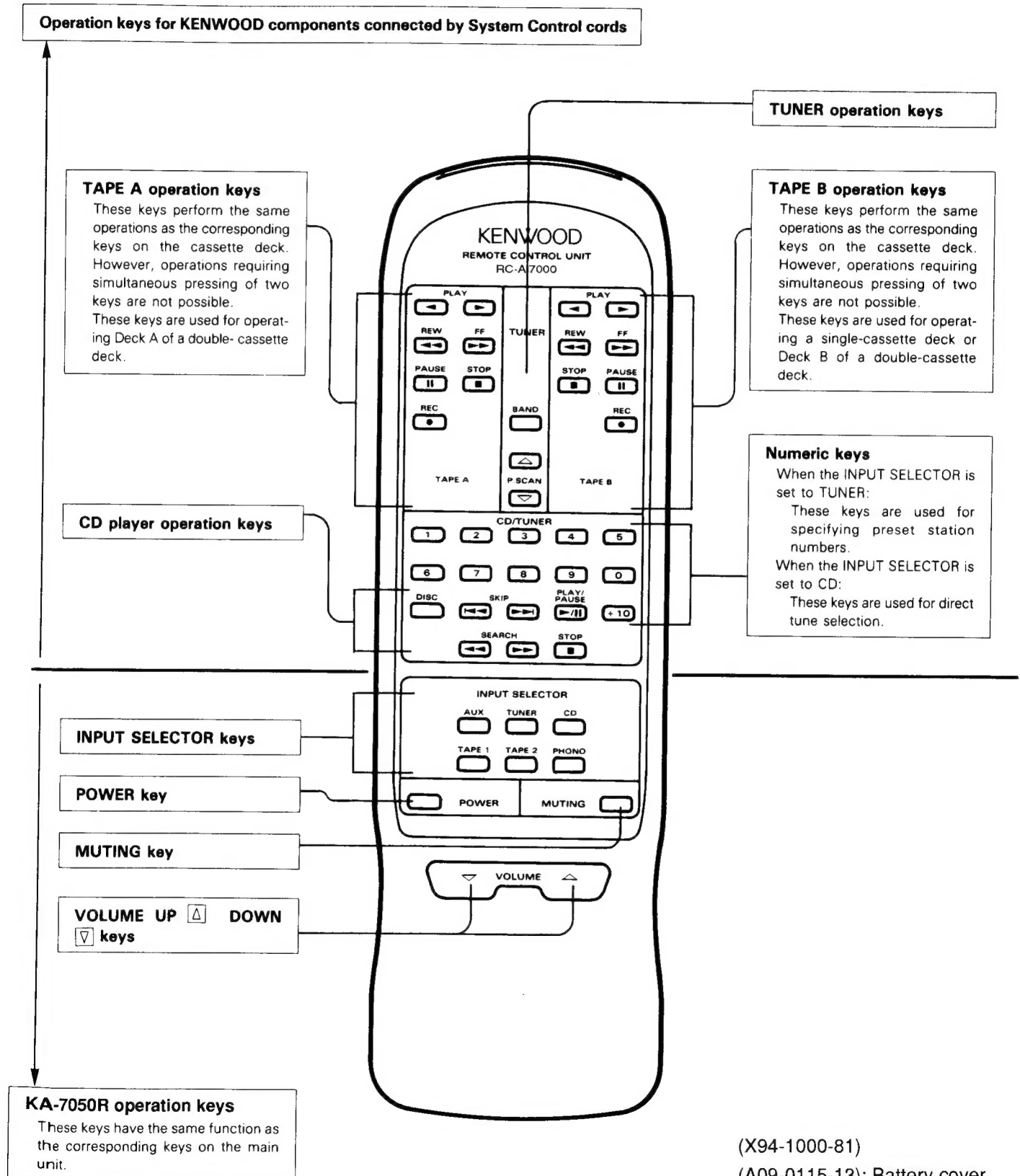
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Q8			DTA124ES	DIGITAL TRANSISTOR		
Q8			UN4112	DIGITAL TRANSISTOR		
A1			W02-0975-05	ELECTRIC CIRCUIT MODULE		

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REMOTE CONTROL OPERATION



(X94-1000-81)

(A09-0115-13): Battery cover

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SPECIFICATIONS

Rated Power Output

100 watts per channel minimum RMS, both channels driven, at 8Ω from 20 Hz to 20,000 Hz with no more than 0.008% total harmonic distortion.

Maximum Continuous Power Output (DIN)

1 kHz at 4Ω 175W

Maximum Continuous Power Output (DIN)

1 kHz at 8Ω 115W

Maximum Continuous Power Output (IEC/NF)

from 63 Hz to 12,500 Hz, 0.7% Total Harmonic

Distortion at 8Ω 115W + 115W

Dynamic Power 360W per channel at 2Ω

260W per channel at 4Ω

150W per channel at 8Ω

Total Harmonic Distortion

(LINE input to SPEAKER output)

Rated Output Power at 8Ω.

20 Hz to 20,000 Hz 0.008%

Frequency Response

LINE (CD) 5 Hz to 100 kHz +0 dB, -3 dB

PHONO "RIAA" Response

PHONO (MM) Input 20 Hz to 20 kHz ±0.3 dB

PHONO (MC) Input 20 Hz to 20 kHz ±0.3 dB

Signal To Noise Ratio

PHONO (MM) (IHF '66) 87 dB

PHONO (MC) (IHF '66) 69 dB

LINE (CD) (IHF '66) 102 dB

PHONO (MM) (IHF '78) 86 dB

PHONO (MC) (IHF '78) 75 dB

LINE (CD) (IHF '78) 96 dB

PHONO (MM) at Unweighted.

50 mW Output (DIN) 68 dB

TUNER/AUX/TAPE/CD at Unweighted.

50 mW Output (DIN) 70 dB

Filter SUBSONIC 18 Hz -18 dB/oct

Tone Control

BASS ±10 dB at 100 Hz

TREBLE ±10 dB at 10 kHz

Loudness Control +6 dB at 100 Hz, +3 dB at 10 kHz

Damping Factor 250/50 Hz

Input Sensitivity/Impedance

PHONO (MM) 2.5 mV 47 kΩ

PHONO (MC) 0.2 mV 100Ω

LINE (TUNER/AUX/TAPE/CD) 200 mV 47 kΩ

Phono Maximum Input Level

MM at 1 kHz 0.08% T.H.D. 120 mV

MC at 1 kHz 0.08% T.H.D. 10 mV

Output Level/Impedance

TAPE REC (Pin) 200 mV 220Ω

General

Power Consumption

3.8A U.S.A. & Canada Model

350W IEC

Dimensions W: 440 mm

H: 163 mm

D: 403 mm

Weight (net) 15.4 kg

Note:

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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